

FASCÍCULI MALAYENSES

ANTHROPOLOGY

PART I

APRIL 15, 1903

15/- net

FASCICULI MALAYENSES

ANTHROPOLOGICAL AND ZOOLOGICAL RESULTS OF AN EXPEDITION
TO PERAK AND THE SIAMESE MALAY STATES, 1901-1902

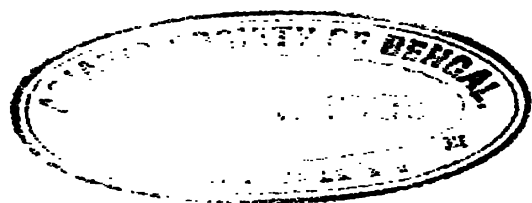
UNDERTAKEN BY
NELSON ANNANDALE AND HERBERT C. ROBINSON

UNDER THE AUSPICES OF THE UNIVERSITY OF EDINBURGH AND
UNIVERSITY COLLEGE, LIVERPOOL

ANTHROPOLOGY

PART I

PUBLISHED FOR
THE UNIVERSITY PRESS OF LIVERPOOL
BY
LONGMANS, GREEN & CO.
39 PATERNOSTER ROW, LONDON
NEW YORK AND BOMBAY
1903



At the University Press of Liverpool
No. 42. April, 1903. 500

PREFATORY NOTE

THE Expedition, of which the results will be embodied in *Fasciculi Malayenses*, originated in the fact that one of us (N. A.) had accompanied the 'Skeat' expedition, as a volunteer, during the first six months of its tour through the Eastern Siamese Malay States. It seemed that many problems, both anthropological and zoological, might, with advantage, be further studied in this district, and it was suggested by Sir WILLIAM TURNER that a series of measurements of the people would be valuable, while Professor E. B. POULTON considered that much light might be thrown on the subjects which he has made his life-work, by more detailed investigation of the insect fauna. The expedition was, in the first instance, rendered feasible by a grant of one hundred pounds, made by the University of Edinburgh from the Earl of Moray Fund. A grant of equal amount was also made, later in the year, by the Royal Society, from the Government Fund at their disposal. The specific purpose for which it was voted having been found impossible, this grant was afterwards transferred to our general work, largely through the kind offices of Professor HERDMAN, to whom we are indebted for introducing us to one another. We must also acknowledge the generosity of Mr. ALFRED HOLT, through whose directions Messrs. W. MANSFIELD & Co. acted as our agents in Singapore and Penang, and brought our very bulky collections home to Europe gratis. Our thanks are due to the British and Siamese officials with whom we came in contact; more especially to His Excellency the High Commissioner of the Ligor Circle and to the British Resident of Perak. Professors HERDMAN, POULTON, and Sir WILLIAM TURNER have extended the hospitality of their laboratories to us, and have aided us in ways too numerous for separate mention. Finally, we must express our acknowledgments to the gentlemen who have undertaken the systematic description of our collections, and to the generous assistance without which this report could not have been produced.

NELSON ANNANDALE
HERBERT C. ROBINSON

CONTENTS

PAGE

CONTRIBUTIONS TO THE ETHNOGRAPHY OF THE MALAY PENINSULA—

Nelson Annandale

Herbert C. Robinson

Part I. Semang and Sakai Tribes	I
Part II. Coast People of 'Trang <i>N. A.</i>	53
Part III. Malays of Perak	67

PRIMITIVE BELIEFS AND CUSTOMS OF THE PATANI FISHERMEN— 73

Nelson Annandale

RELIGION AND MAGIC AMONG THE MALAYS OF THE PATANI STATES—

Nelson Annandale

Part I	89
------------------	----

CONTRIBUTIONS TO THE PHYSICAL ANTHROPOLOGY OF THE MALAY PENINSULA—

Nelson Annandale

Herbert C. Robinson

Section I. Observations on the Living Person (Semangs, Sakais, Coast Folk of Trang, Perak Malays)	105
--	-----

Section II. Observations on the Skeleton—

Part I. Semang and Sakai Tribes	150
Part II. Coast Folk of Trang <i>N. A.</i>	167

ANTHROPOLOGICAL MISCELLANEA—

Malay and Siamese Folk Tales	176
Sakai Notes <i>Leonard Wray</i>	180

A Map and Itinerary, which it has been found impossible to include in the present fasciculus,
will be published in a succeeding part

CONTRIBUTIONS TO THE ETHNOGRAPHY OF THE MALAY PENINSULA

BY NELSON ANNANDALE AND HERBERT C. ROBINSON

The first four parts of this paper will be purely descriptive, dealing with (1) Semang and Sakai tribes; (2) the Coast Folk of Trang; (3) the Malays of Perak; and (4) the Malays and Siamese of Patani and Senggora. We intend to describe each tribe that we have ourselves investigated as fully as our experience permits, but not to discuss our results or compare them with information derived from other sources until we come to the fifth part of our paper. This will consist of a summary, with discussions as to the relationships of the different racial elements in the Malay Peninsula.

PART I. SEMANG AND SAKAI TRIBES

AS we believe that it is possible to distinguish two distinct types among the jungle-folk of the Malay Peninsula, we have thought it best to retain the names, Sakai and Semang, for them, seeing that these terms have acquired a certain currency. This has been done purely for the sake of convenience and to avoid confusion, for both terms are really bad: 'Sakai,' among the majority of those tribes to whom it has been applied, is a term of abuse, the origin of which is uncertain, while 'Sémang,'¹ is a Malay corruption of 'Semán,' a name given to one particular tribe by themselves.

1. Crawford states, without reference to any wild tribe, that *sakai* means 'follower,' 'retainer,' 'dependent,' or 'associate' (*Malay Grammar and Dictionary*, vol. ii, p. 157, London, 1852); other authorities say, variously, that it means 'dog,' 'friend,' etc. (*Zeitschr. für Ethn.* 1891, p. 830, Berlin). In many parts of the Peninsula where jungle tribes occur, Sakai is a general term applied indiscriminately by the Malays to all of them. In Patani, where *Panghan* takes its place, it is hardly known, except among those Malays who have visited Perak; and this is probably true in parts of Pahang, Kelantan, and Kedah also. In South Perak and at Kuala Kangsar, the residence of the Sultan of Perak, the Malays say that all those jungle-folk who live on the right bank of the Perak River are Sakais, and all those on the left, Semangs—a view of the case which is approximately correct; but in Upper Perak the Semangs are said to be those Sakais who have no master, viz., the Pô-Klô, who are Sakais according to our classification and live on the right bank of the stream.

2. Mr. W. W. Skeat suggests (*Malay Magic*, p. 185) that the words *semang* and *siamang* (*Hylobates* sp.) may have been confused, but the latter is probably a contraction for Sri-Amang, Sri being an honorific prefix, derived from the Sanscrit, that is often added to the names of demi-gods and heroes in Malay folk-lore. Amang is a legendary hero of Upper Perak, whose children became gibbons after he himself had perished in a combat with Wa-Wa, whose offspring and followers were also turned into gibbons of another species. The bodies of the two heroes were transformed into rocks, which are still shown. The legend is to account for the belief that different species of gibbon, known in Malay as *siamang* or *amang* and *wa-wa* or *mawak*, inhabit the right and left banks, respectively, of the Perak River; but whether the belief is true has not been properly investigated. *Wa-wa* is an onomatopoeic word derived from the cry of the species with which it is associated.

Those tribes¹ which we have called Semang appear to be negritoid, and to be, on the whole, of fairly pure stock ; their complexion is dark, their hair frizzly or woolly, and they are always, so far as we can say, pure nomads—though often within a limited area—practising no form of agriculture. The Sakais, on the other hand, are as a rule fairer in complexion ; the hair of individuals may be like that of a Semang, but, if a number of persons belonging to one tribe be examined, some members of it will be found to have wavy, or even straight, hair. The majority of the Sakai tribes have reached a certain level of culture—building houses and planting grain and vegetables. Speaking generally, the Sakais are hillmen, and the Semangs live in the plains.

With regard to the geographical distribution of the Semangs it is difficult to dogmatize. Their southern boundary, in Perak, is practically the Perak River, though they certainly do cross to the opposite bank occasionally. Northwards, on this side of the Peninsula, they do not appear to have been recorded north of Kedah, though, undoubtedly, they occur in the state of Trang. Mr. A. Steffen, who has resided for some years in that state as engineer in the service of the Siamese government, and has had exceptional opportunities of observing the people of the country, told me (N. A.) that he has met members of a wild tribe, answering in all respects to my description of the Semán, at Ban Chong—a village at the base of the range of mountains that separates Trang from Patalung. On the eastern side of the Malay Peninsula, the Semangs are found at least as far south as the state of Pahang, but, probably, no further. To the north, they occur in Patalung,² where there is, probably, a very marked Semang element in the Siamese population ; while we were told by a well-educated Bangkok Siamese, who had travelled extensively in Lower Siam, that he had met dark, curly-haired jungle tribes in the state of Ligor, or Nakon Sitamarat.

The Sakais, on the other hand, do not extend more than twenty miles north of the Perak river, on the western side of the Peninsula. In part, at least, the wild tribes of the state of Selangor are Sakais, but those of Malacca and Johore appear to be primitive Malays. On the eastern slope of the main range, there are Sakais north of the Pahang river : but they do not appear to extend into the states of Trengganu and Kelantan, and there is no evidence whatever that they have ever existed in any part of the old kingdom of Patani.

1. C.f. The definition of Semang and Sakai or Allas tribes given by G. W. Earl, *The Native Races of the Indian Archipelago, Papuans*, p. 151, London, 1853.

2. *Report Brit. Assoc.*, 1900, p. 394.



Fig. 3



Fig. 2 showing gilder



Fig. 1

SEMAN, (HAWAIIAN); MADLER, JAL. R.

(The Waistedolids are 2.1 of the bilateral type C - rear standing, Plate II, Fig. 1)

(A). SEMANG TRIBES

Hami of Hulu Jalor (Plates I, II, fig. 1).

At Mabek, in Jalor, we met with one Semang family, consisting of four men and a woman, who called themselves either *Hami* or *Suku*, the latter term being Malay, and meaning 'tribe'; while *bami* in their own dialect signifies 'men.' They said that they represented the only wild tribe now existing in Jalor, and that it consisted of about twenty individuals of all ages and both sexes, but that there was another tribe or family living on the borders of the State of Rhaman, which called itself *Mani*—a term which also meant 'men.' These people were known to the Malays as *Sémang*, the proper Malay designation of the Mabek tribe being *Pangban*.

The aborigines of Jalor appear to have been fairly numerous within the last quarter of a century. Mikluchlo-Maclay met them on a hurried journey through that state about thirty years ago, while the Raja of Jalor and other natives and Chinamen assured us that there were numbers of them in the neighbourhood of Biserat even more recently, and that they entered the village frequently until within the last few years. It is impossible to state dogmatically that the Semangs are now extinct in Jalor, with the exception of this one small tribe, but it is probable that they are very nearly so. It should be noted, however, that a man-hunt, organized by a former Governor of Senggora, who was anxious to obtain specimens of them for exhibition in Bangkok, has so terrified the Semangs in this state, that the approach of anyone who seems to be important causes them to conceal themselves immediately; while their Malay masters, afraid of losing their services, are most reluctant to allow them to be seen: indeed, we ourselves, owing to this circumstance, had the greatest difficulty in obtaining two short interviews with them.

Three males whom we measured were 1,529, 1,511, and 1,482 mm. in height; the woman was 1,476. All of them appeared to be adult, and the woman informed us that she had had three children. The colour of the skin of both sexes was between chocolate and red,¹ and was not noticeably paler on the face than on the body. The hair of the men was sooty black, and covered the scalp in short 'peppercorn' curls; that of the woman stood out from her head to the distance of some inches in a mass of stiff ringlets, being frizzly rather than curly. Their features were negroid, but their lips were not particularly thick, and prognathism was only present to a slight extent. Their faces were broad, less flat than those of the Malays, and wedge-shaped. Their figures were slight but not ill-formed. The abdomen was but slightly

1. These names of colours are derived from the British Association's *Notes and Queries on Anthropology*, pp. 17-21. For a definition of the other descriptive terms used in this paper, see under Physical Anthropology, *passim*.

protuberant, though more so than that of most Malays and Siamese, and steatopygy was quite absent in both sexes. There was a wide separation between the hallux and the second toe. Malays claim to be able to distinguish the footprints of a Hami owing to this fact, and we thought that we could do so also. The skin was smooth, except where roughened by disease, and we could not detect any characteristic odour from it. Their person was fairly clean, except on the scalp, which was filthy.

Their eyes were very bright, and had an expression at the same time timid and wild. Their movements were abrupt but graceful, and they walked in a manner which differed greatly from that of the civilized peoples of the Peninsula, but was eminently characteristic of all the jungle folk whom we met. The pace was long, and the action was from the hip, the heel being raised high with a peculiar outward fling. In short, the gait was that of a man accustomed to step over low obstacles, as would be necessary in a pathless jungle strewn with fallen branches and tree-trunks. The Hami walked very rapidly, and were said by the Malays to cover great distances in the course of a day. When at rest they either squatted on their haunches, or sat with their legs stretched out straight in front of them upon the ground. When standing they often held their arms akimbo.

One of the men who came down to see us was suffering from ague, and his temperature, observed an hour-and-a-half after food, was 103.8° *Fabr.* in the mouth; while that of another man of the same tribe, who appeared to be in normal health, was 99.2° *Fabr.*, taken under the same conditions; in a third case the temperature was 99.5° *Fabr.* The temperature of the air was 92.0° *Fabr.* The five persons whom we saw were all suffering, or had lately suffered, from a skin disease resembling *Tinea versicolor*, but not to the extent we afterwards found prevalent among the jungle people of Perak. They told us that what they feared, above all things, was 'hot rain,' *i.e.*, warm, damp weather. When a slight shower fell, they rushed immediately to take shelter under a tree, and the same thing occurred when the sun shone out.

The jungle people of Jalor have a great reputation, among the Malays and other races of the district, as herbalists, especially with regard to drugs used at child-birth, and to procure abortion. Our men begged them to bring certain roots used for the former purpose, and afterwards sold them in Patani. Most of their remedies, however, appeared to be empirical: the man suffering from fever had painted a white patch under his right jaw, and a short, white bar transversely across each dorsal vertebra, as a remedy. A string worn round the neck so tightly as to mark the skin was considered a prophylactic against the effects of 'hot rain,' that is to say, fever. The peculiar belt of



Fig. 1. SEMANG (HAMID) FAMILY. MAHER, JALOR.



the woman described below served the same purpose against what was described as *sakit pinggang* or 'pains in the waist.'

Both the men and the woman wore as their only clothing a T-bandage of cloth obtained from Malays or Chinamen. In the case of the men this was so cut as to form a bag in front which acted as a suspender. Over the bandage the woman wore a girdle of dead leaves, and over this a peculiar belt, which appears to be characteristic of the women of all Semang tribes. The leaves and the belt were regarded as charms, not as clothing. The belt was made from the rhizomorph¹ of a fungus which is abundant locally among dead leaves in the jungle, and is regarded in those districts where it does not occur as 'strong medicine.' It is known to the Malays as *urat batu*, 'nerves' or 'tendons of the rock.' Growing in leathery filaments, with a shiny black surface, and about 2 mm. in diameter, it is cut by the Hami into pieces about a foot in length; these are doubled and fastened over a string of twisted vegetable fibre by means of a clove-hitch in such a way that they hang down in a fringe five or six inches broad. These fringes are wound round the waist as many times as their length will permit. The men wore bracelets of plaited rattan and *urat batu*. The woman's hair was ornamented by two bamboo combs, stuck into it one in front and one behind. In shape and pattern they

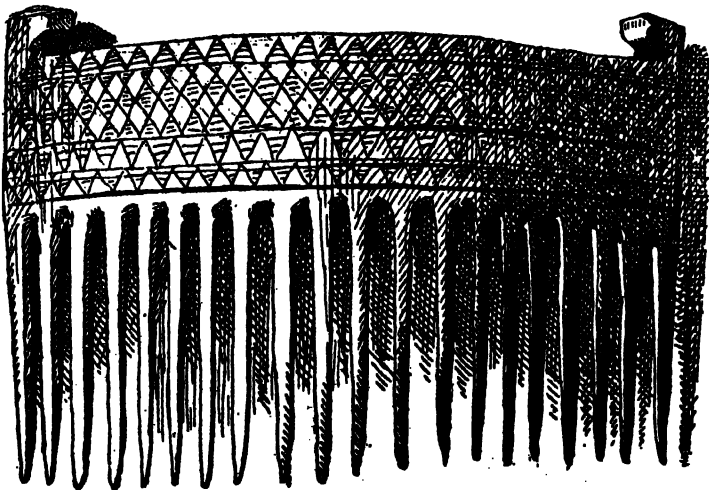


FIG. 1. Hami Woman's Bamboo Hair Comb. Mabek, Jalor,
Scale, $\frac{1}{2}$

somewhat resembled those worn by the Sakai women of South Perak, but were larger and had a projection at each end on the top (Fig. 1). She made no

1. The fungus is *Polyporus*, sp. We are indebted to Professor Harvey Gibson for this identification.

objection to part with these combs in exchange for a little rice. The lobes of her ears were pierced and distorted, and she told us that unmarried girls wore earrings, which were discarded on marriage. This is also a Malay custom.

When questioned about the number of children usually born to a Hami woman, she volunteered the information that the children of her tribe were always born at the same season of the year, that season, according to some Malays who were present, which corresponds with the first month of the Arabic calendar, as reckoned in the Peninsula, that is to say about March. This would be just after the conclusion of the stormy season. The statement was confirmed by a Malay woman, who remarked that the Panghans bred like beasts; but Malay evidence is practically worthless regarding these people. We were unable to obtain information concerning the number of children usually born, owing to our Hami informant's inability to count; but she said that a child was born regularly every year to women of the proper age.

For weapons the men carried stout cudgels, one of which was made of a sapling covered with particularly stout spines set at right angles to the stem. They were not shaped, but merely cut from the tree. The chief of the tribe brought us a blowgun as a present. It was made, like all other blowguns we saw in the Peninsula, of an outer and an inner tube. The former was composed of two lengths of bamboo neatly spliced together, the junction being protected with a plaited rattan band; while the inner tube was fashioned in a similar way, except that a piece of the flower-spathe of a palm was gummed over the splice. The total length was about seven feet. The ornamentation of the sheath was elaborate, and consisted of a series of bands of incised geometrical patterns, extending over the whole of the section nearest the mouthpiece. The design was composed of dots and transverse and slanting hatchings, mostly arranged in lozenges, the longer diameter of which was in the direction of the length. In a few cases the pattern had been emphasized by the use of a hot iron. The mouthpiece was annular, composed of rather soft wood, and was fixed to the tube by resin. The distal end of the blowgun had been closely bound with vegetable fibre and coated with resin, to prevent splitting; the action of fire was evident upon this. The quiver was a short length of one of the larger bamboos. It was devoid of cover and had not been decorated in any way; but was bound with plaited rattan, and had attached to it by means of a string the ulna of a monkey, said to be that of a white gibbon. This was used to twist into the girdle of the owner (Plate I, fig. 2), and was also regarded as a charm against the effects of 'hot rain.' The darts were split from the stems of a grass or sedge, being about ten inches long, with cones of a light, spongy cane at the

base. They fitted into a series of cane tubes, one dart in each tube, which were tied together by a string twisted round each, a short distance from one end. The series was coiled in an upright position in the quiver. The Hami denied that they made or used bows and arrows.

One of the party possessed a piece of flint and the tip of a broken knife, by means of which fire was produced. They denied that they could make fire in any other way. The flint and steel had, of course, been obtained from a Malay. The woman carried on her back a basket similar to those used by the wild tribes of Perak and Selangor.

The Hami appear to construct huts, or rather shelters, of two distinct types, one of which is essentially the same as that used by all races of the Peninsula when travelling in the jungle. It consists of a small platform, usually not more than four feet long and eighteen inches broad, and formed of sticks raised at one end about nine inches from the ground, on which they rest at the other. They are supported on another stick running at right angles beneath them, and resting at either end on a V-shaped stake. Behind this a few more sticks are planted so as to lean over the platform, forming a frame for a screen of roughly interlaced leaves. In one shelter that we saw the leaves were those of a large gingerwort. This kind of shelter is used by unmarried youths and when on the march. In the jungle near Mabek we came upon what was said to be the home of a married couple. It consisted of a rude beehive hut built of palm leaves supported on rough sticks, and was about six feet in diameter and four feet high in the centre. Inside there was a platform resembling that of the other type. The entrance, which appeared to have been a mere hole in one side, had been blocked up with leaves. Possibly this was a grave.

We did not succeed in meeting living individuals of the Semangs on the borders of Rhaman, but we obtained some information regarding them in this district. The ruins of a camp were seen, consisting of fifteen shelters of the ruder type made by the Hami. They were arranged in a circle round a tree growing in the deep jungle on the top of a small hill, and were rather larger than the one described; several of them had smaller and lower structures beside them, probably for the use of children.

Beneath the tree there was a grave, which had consisted of a shallow hole of roughly circular shape. Apparently the earth had not been filled in over the body, but a covering of palm leaves had been supported on posts above it. The bones had been almost entirely devoured by termites, but the hair, which was several inches in length, was well preserved. A cavity, where the skull had rested, was filled with the pupal cases of flies. Another grave, that of a small child, was investigated, a few miles from the village of Tanjong

Luar. It was in secondary jungle, where the tribe were said to have been encamped at the time of the death, and was also a shallow pit. • It had been covered over with sticks, above which were a few inches of earth. Some beast had evidently abstracted the remains from under the sticks. In two instances we found that dead bodies had been exposed in caves, where one of them had been eaten, with the exception of the calvarium, by porcupines. The other was in so perfect a condition, the skin having dried over the bones, that our Malays suggested that it had been preserved by magical art ; but there is no reason to believe that any process of embalming had been used.

A Siamese medicine-man (*môr*), who procured us this body, had told us previously that when a Semang died his friends tied the body by the neck to a sapling, which was bent down into an arc and then suddenly released, whereupon they said, ' his soul has gone above ' (*semangat dia sudab naik ka-atas*). This statement would hardly be worth recording—for it must be noted that it was not even made in the medicine-man's own language—but for the fact that a long cord was attached to the string tied round the neck of the body when found.

Both at Mabek and at Ban Kassôt, the Siamese part of the village of Tanjong Luar, there was a man who claimed to have a hereditary lordship over the Semangs of his district. In one case he was a Malay and in the other a Siamese. The latter was called by his Malay neighbours *Gambala Sakai* (herdsman of Sakais), the jungle folk being regarded not as human beings, but as intermediate between beasts and spirits. It seemed certain that both these men had the power of summoning their Semang slaves at will, but they were both most unwilling to do so for our benefit, as they probably suspected that we wished to steal them. The Hami were employed to collect jungle produce for their master, to clear jungle, and to get in the harvest. On one occasion we all but surprised the Mabek tribe working in a jungle clearing. It did not appear, however, that they practised any form of agriculture on their own account. We saw numerous places in the jungle where they had recently been digging for roots, probably with a pointed stick, and in one spot we came across some wild fruits that had just been hidden in a hole in the ground, as was evident from the track in their vicinity.

The Hami do not appear to be exogamous, for the father-in-law of the chief (*rit-beb*) lived in the same camp as he did. The chief had bought his wife from her parents for two lengths of cloth.

The Malay and Siamese legends regarding the Panghan throw no light upon their true origin. The Raja of Patani told us that the jungle tribes were the offspring of an incestuous union between a brother and a sister, who were cast out of the community. It is interesting to compare this story with

that' current among themselves regarding the origin of the Kubus. A Siamese in Jalor, on the other hand, stated that in the days of old, Sri Hanuman, 'who was a monkey,' invaded the country and burnt the villages. The people fled into the jungle, but their skins were darkened and their hair frizzled by the heat; while their pigs became jungle-pigs, and their cattle tapirs and other wild beasts. The tale is obviously an echo of the Hindu epic, *Ramyaana*, incidents from which abound in the shadow-plays both of Malays and Siamese.

The Semán of Upper Perak and Rhaman (Plates II, fig. 2, III, IV, V, fig. 2).

At the village of Grit, in Upper Perak, and at Krunei, near the Perak-Rhaman border, I met over fifty individuals belonging to a Semang tribe that called itself Semán, while at Kampong Jarum, in the Jarum district of Rhaman, I saw others who were said to come of the same tribe, and even to be near relatives. The Malays of Upper Perak call these Semán *Sakai Jeram*, or 'Sakais of the Rapids,' on account of their skill as raftsmen. (None of the jungle folk met in Upper Perak objected to be called Sakais; indeed they often used the term when talking of themselves in Malay).

The government census for 1901 gives the number of 'aborigines' in Upper Perak, including the New Territory ceded or restored by Siam in 1899, as 2,246; of these 1,277 were males and 966 females. Of the males 303 were under fifteen years of age, and of the females 208. Though there is a slight mistake in arithmetic in the census of this district, there is no reason to consider it less than approximately correct; for it is not difficult here to call together the Sakais and Semangs through their Malay masters and Chinese friends, and most, if not all, of the enumerators were Malays. Some Semang families may have been absent across the border when the census was taken, as there is at this point no natural boundary between the Siamese and the Federated Malay States; but, on the other hand, families who generally lived in Siamese territory may have been present. It must be noted that the term 'aborigines' includes both Semang and Sakai tribes. The total 'aboriginal' population of Perak in 1901 was 7,982, but this, owing to a mistake, noted later, in one of the districts, includes a certain number of natives of India. That of all nationalities in Upper Perak and the New Territory at the same date was only 6,758, almost exactly three times the number of the Semangs and Sakais of the district. The settled population is here almost entirely Malay, with a considerable admixture of Semang or Sakai blood in some villages. Jungle men who 'enter Islam' are no longer looked upon as inferior beings,

1. Henry O. Forbes, *A Naturalist's Wanderings in the Eastern Archipelago*, p. 243, London, 1885.

2. When the first person singular is used in our joint papers, the statements are those of N. Annandale alone. H. C. Robinson was unable to visit Upper Perak, Patalung, or Trang.

and not infrequently marry Malay women; while the taking of Semang or Sakai concubines by Malay men is, or was until lately, even more common.

In spite of this fact, it is improbable on historical grounds that there is any more than casual admixture of Malay blood in the Semán, as it would not be worth the while of Malays fleeing from justice or enmity to join a tribe largely under Malay control. If a Malay wishes to take a Semang concubine, he prefers to make an arrangement by which he can bring her to live in his village, as, however good a jungle-man he may be, he always dislikes the discomfort of living in the jungle. There is reason to believe that the Semán are less scrupulous about making arrangements of the kind than the Sakais. On the other hand, it cannot be doubted that there is a small admixture of Sakai blood in the Semán, as they told me that occasionally, though rarely, their young men took wives from the *Sakai Bukit* (Hill Sakais), with whom they barter *urat batu* and other products of the plains for bamboos, out of which they make their blowguns. The *Sakai Bukit* or Pô-Klô, however, are very nearly related to the Semang stock.

The mean height of twenty adult male Semán was 1,528 mm., almost exactly that of the Sakais of Batang Padang; the height of two women was 1,427 and 1,453. The figures of the men were slight, but not emaciated; the women appeared better nourished. In the men the breasts were rather prominent, but this was not the case in so marked a degree as among the Sakai men, who were often stouter; the breasts of the women were firm and shapely, not pendulous or flaccid. The tendency to protuberance of the abdomen was only slight. Hair was often absent from the bodies of the men, except on the pubes, where it was fairly abundant, but in some cases the outer surface of the thighs was covered with fine curly hairs, each of which curled independently of the others. The naturally scanty beard and moustache were removed with tweezers. The body hair was of the same shade of black as that of the head. The reddish tinge characteristic of Sakai hair did not seem to me to be so strongly marked among the Semán. The character of the hair was more constant among the members of this tribe than among those of any other jungle tribe that we saw. Without a single exception, it was decidedly frizzly or almost woolly, though in the majority of instances the way in which it had been treated somewhat disguised its true character. The individual hairs were rather fine, but apparently coarser than in the case of the Hami. The nose was invariably negroid in outline, with broad alae; but the absence of bridge was seldom so conspicuous as in certain individuals among the Sakais of South Perak. The lips were thick, never everted; and prognathism, though generally present, was never excessive. The epicanthus was absent

in all but a very few cases, in which it was vestigial. The face was broad, mesoprosopic, and pointed towards the chin. The features were infantile. The colour of the skin of the body was never darker than chocolate, usually between chocolate and dark olive. That of the face was rather darker, partly owing to exposure, and partly to dirt. With a few exceptions, the eyes were reddish brown. The soles and palms were nearly white. The space between the hallux and the second digit was different in different individuals.

The hair of the head, even in young children, had invariably been shaved, but in the great majority of individuals a lock upon the top of the head had been allowed to grow to what was said to be its full length—not more than five or six inches. In some this was absent, and then the hair covered the scalp in close ‘peppercorn’ curls, which developed into frizzly ringlets when permitted to grow. I have no doubt that they might have been combed out to form an aureole, or ‘mop,’ though not one of the large dimensions occasionally seen among the Mai Darát. In a half-breed Semán boy, who had been brought up as a Malay, a lock had been left in the same place, as is generally done in the case of Malay boys who have not yet been circumcised; but the character of the hair was quite different, for it was much coarser and less stiff, and hung down his back in a long, wavy coil to the length of about a foot-and-a-half.

The great majority of the men suffered from a skin disease similar to that noted in the case of the Hami; the women appeared to be far less liable to it. Like the Hami, also, the Semán are very sensitive to wet and to the direct rays of the sun, and extremely afraid of ‘hot rain,’ which they regard as the cause of ague, to which they say that they are liable. Several of the men complained of ‘worms in the teeth,’ *i.e.*, dental caries; and for this reason one had even made a mortar in which to grind up all his food. In a camp near Grit I saw one man who was imbecile and epileptic. His body and limbs were frightfully scarred by burns caused by his falling into the fire.

The clothing of the Semán men resembles that of the Hami, except that it is often made of bark-cloth, derived from a species of *Artocarpus*, and that the strip of which it is composed is of the same width throughout its length. The women usually wear a short petticoat of cotton or bark-cloth when in the neighbourhood of Malay villages, but dress like the men when in the jungle. They wear girdles made of the rhizomorph of the same fungus as that used by the Hami women; but, though the effect is the same, they make them in rather a different way, using no string foundation, but plaiting the rhizomorph itself into long bands about four mm. wide, from which the loose ends hang down and form a fringe about six inches deep. The bands are

very short in the case of little girls, who wear them as soon as they can run about, but in the case of older women they often encircle the waist several times. They are regarded both as a protection against the effects of 'hot rain' and against 'pains in the waist.' Bracelets of plaited rattan are worn on the forearm by both sexes. Twisted strings of fibre or of the fungus rhizomorph, with the loose ends hanging down the chest, are tied very commonly round the neck, being regarded also as charms against disease. Flowers are less commonly used for decoration of the person than among the Sakais, but I saw several women, boys, and young men, with garlands of *Ixora*, and with bunches of the same blossom and others thrust behind the ears. This custom, as well as that of carrying cigarettes and other small objects behind the ear, causes that organ to be considerably distorted, and to be so bent forward that it is very difficult to obtain an accurate measurement of its length. The deformation is commoner in the right ear than in the left. The use of ornamental hair-combs is rare, probably owing to the fact that the head is shaved and the top-knot left of very small dimensions; but in the case of one woman, who had not lately been able to procure a razor, a comb, very like the type that is commoner among the Sakais of South Perak, was inserted near the back of the head. Its patterns were identical with those fashioned by the jungle folk of that locality, except that a variety of the 'Argus Pheasant' pattern (*post.* pp. 15, 17, fig. 4) appeared among them.

As a rule the lobes of the ear are not pierced, and no other form of mutilation is practised, except the piercing of the septum of the nose—a practice that is universal among the men. Possibly this operation is performed on boys who have reached the age of puberty, for I did not observe in the case of children that there was any aperture in the septum. When the men are in the jungle or on the river, the rolled-up leaf of a gingerwort, a porcupine's quill, or a piece of wire obtained from a Chinaman or Malay, is thrust through the hole. I could obtain no information regarding tattooing or scarification of the skin, and do not believe that it is practised in this tribe. One young woman whom I saw had daubed white clay upon her forehead in an arc consisting of five circular blotches, on the lower part of each cheek in a slanting vertical line, and between her breasts' (Plate IV, fig. 1). Both she and her companions asserted that this had been done 'to make her beautiful,' but possibly there was some other significance also.

Until lately the only weapons of the Semán were blowguns, for they deny that they use bows¹ and arrows, except in exceptional cases when they have

1. This mark has unfortunately been erased in the process of reproduction.

2. Mr. L. Wray, of the Perak State Museum, assures me that the Semán of Upper Perak made bows and arrows within recent years (*c.f. postea*, under 'Miscellaneous').



JANG (SEMÁN) MAN
Figure: Plate V., F

Upper P



Fig. 2. SEMANG (SIMÁN) MAN, GRIFF, UPPER PERAK

procured them from the hill Sakais ; but recently old 'Tower' muskets have been coming into their hands. Their blowguns differ from that given us by the Hami chief, in that they are made of the bamboo, *Bambusa Wrayi*, which has extraordinarily long nodes, often reaching the length of six or even seven feet between the partitions. This obviates the necessity for splicing two pieces together or breaking through the septum dividing two nodes. The colour of the rind of this bamboo, which is of a warm brown shade, is also admired by the Semán, who do not like to spoil it by incised ornamentation. Occasional circles are scratched round it, probably in order to indicate the position of bands of plaited rattan that the owner intends to add at his leisure to prevent splitting ; but the outer tube is not otherwise marked, though the inner tube, which is generally formed of a piece of lighter colour, has simple geometrical patterns, resembling those used more or less by all tribes of the Peninsula, scratched upon it. Very often a short length of it projects between the mouthpiece and the commencement of the outer tube, and this is nearly always decorated in this way. The mouthpiece is composed either of wood or of some resinous compound. In shape it is generally a little less distinctly annular than in the case of the Hami specimen, being often bowl-shaped and sometimes almost conical. The bamboo out of which the Semán make their blowguns is obtained by barter with the hill Sakais, as the species is a mountain one of very limited distribution. Very probably the majority of these weapons are even made by the hill Sakais, and only obtained in a finished condition by the Semán.

The darts are made in the same fashion as those of the Hami, by splitting stems of some hard grass or sedge and fastening to one end a conical piece of the light spongy wood of a palm. The other extremity is sharpened and poisoned with a resinous substance of a dark brown colour. A notch is cut in the shaft of the dart just below the poison, so that the tip may break off in the wound. The poison being of two qualities, the darts provided with the more potent kind are distinguished from the others by a black mark made on the base of the cone of light wood. As the darts are packed in the quiver with the points downwards, these marks are seen as soon as the quiver is unstoppered. The practice of indicating the quality of the poison on the darts in this manner is widely spread among the jungle tribes of the peninsula.

Only two active ingredients appear to be used in making dart-poison by the Semán, and, indeed, by the other jungle folk of the Peninsula, though other substances may be added for superstitious reasons. These two ingredients are the sap of the Upas tree (*Antiaris toxicaria*), and that of a creeper belonging to, or closely related to, the genus *Strychnos*. The former is the less potent of the two, and is often used alone on darts for killing small birds and mammals ;

the strychnine does not appear to be used alone, but to be mixed with the other poison when larger game is aimed at. I was told, both by the Semán¹ themselves and by Malays, that the domestic fowl and the domestic cat are both immune to upas or *ipob* poison, and this is certainly true in the case of the fowl. To prove it I took a supply of freshly made darts and two healthy hens, and pricked the latter in different parts of the body until, in one case, the poison from the dart was almost completely dissolved in the blood: There was no result other than would have been caused by an ordinary prick. Later in the same day I caught a frog, *Rhacophorus leucomystax*, and inserted one of the same lot of darts beneath the loose skin of its back, in such a way that only half the the poison was covered and only a very small portion of it dissolved. In two minutes, by a watch, the frog had become so lethargic that it refused to move when touched. Its breathing became rapidly shorter, its mouth opened, and the pupils of its eyes turned upwards. It was dead in less than seven minutes. About three minutes before death it leapt into the air, but landed on its back. It was quite silent throughout, though this species of frog screams loudly when attacked by a snake.

The poisons are produced by boiling down the substances extracted from the two plants, either together or separately, until they have attained a dark colour and a treacly consistency. They are then spread out with thin strips of bamboo or wood upon spatula-shaped palettes, upon which the points of the darts are rolled until a conical mass of the poison, about a quarter of an inch long, has adhered to them.

Not infrequently the Semán thrust their poison darts loosely into the cloth round the waist, and though this practice seems very dangerous, I was told that accidents arising from it were unknown. When quivers are used they are of a very characteristic type (Plate XIII, fig. 1, B). While the other tribes investigated all use a large bamboo in making the receptacles for their darts, the Semán prefer a slender species, usually not more than an inch-and-a-half in diameter. From the stem of this they cut off a piece about fifteen inches long. No cover is made, but the bamboo is stoppered with bunches of leaves or fibre, and is carried upside down when in the jungle, as wet destroys the poison on the darts. The ornamentation of these quivers is characterized by a differentiation of colour produced by cutting away the rind of the bamboo and rubbing some kind of oil into the comparatively absorbent surface thus produced. This is done either in transverse bands or in segments of a circle. Otherwise the patterns closely resemble those on the Sakai combs. The quivers of the Semán are frequently polished with oil, so that they have a shiny surface and soon

1. The reason they give is that fowls 'eat earth.'



Fig. 1. SEMANG (SEMÁN) WOMEN: GRIT, UPPER PERAK



Fig. 2. SEMANG (SEMÁN) SHELTER, WITH KITCHEN (occupied by married couple), GRIT, UPPER PERAK (Profile of man: Plate III, Fig. 2).

gain a brownish tinge, which becomes so dark in time that it almost conceals the ornamentation. In the Semán quivers the darts are usually separated from one another by means of strips of palm leaf. The 'palm scurf,' used for filling up the aperture of the blowgun behind the dart whenever the latter is inserted, is carried in a fold of the waist-cloth.

Bamboos, not dissimilar to the quivers, but considerably wider and shorter, are used as receptacles for tobacco, flint and steel, nuts of the wild areca palm, and the like. Their ornamentation is often identical with that on the quivers, but in some specimens very curious representations of animals and men are scratched on the surface (Fig. 4). As may be seen from the figures, they are of a highly conventional character, only some particularly important or striking feature of many of the animals being portrayed. In the case of the 'turtles,' for instance, only the carapace is drawn, while in that of the 'Argus Pheasant'—a pattern on which I will have more to say later, in connexion with the Pô-Klô—the long tail feathers are the only feature that is at all recognizable. The pattern known as 'hills' to the Semán is called by a variety of names among the different tribes of the Peninsula, but is very generally taken to represent the young shoots of the bamboo or some other plant. The 'calthrops' that occur on one figured cylinder (Fig. 2), are apparently little, sharp-pointed pieces of iron or bamboo welded or tied together in such a way that, however they are thrown on the ground, one point always remains upright, to maim the feet of anyone who treads on it. Devices of the kind, called *sudar* in Malay, are still used by Malay and Siamese burglars, in order to prevent pursuit when they are escaping; and in the State of Jalor we saw them kept by a Chinaman to scatter round his opium shop at night. Presumably they are also used by the Semán, seeing that these people have in their own language an equivalent for the Malay word *sudar* entirely different from it.

Fire is usually procured at the present day by means of flint and steel or Japanese lucifer matches, but the older men are still able to make fire by means of wood and rattan. The chief of the camp that had its head-quarters at Grit showed me how this was done. He took a billet of soft wood, about a foot-and-a-half long, and split it at one end so as to form a cleft of about six inches. Into this he inserted a small stick, which formed a peg separating the two halves and standing above the surface of the billet to the height of an inch or more. Beside this he placed some 'palm scurf.' He then took a stout strip of rattan, about five feet long, and passed one end of it under the billet as it lay on the ground. To each end he fastened a stick, which acted as a handle. Then he grasped one of these sticks in each hand, and, holding down the cleft billet by means of his right foot, he began to draw the rattan

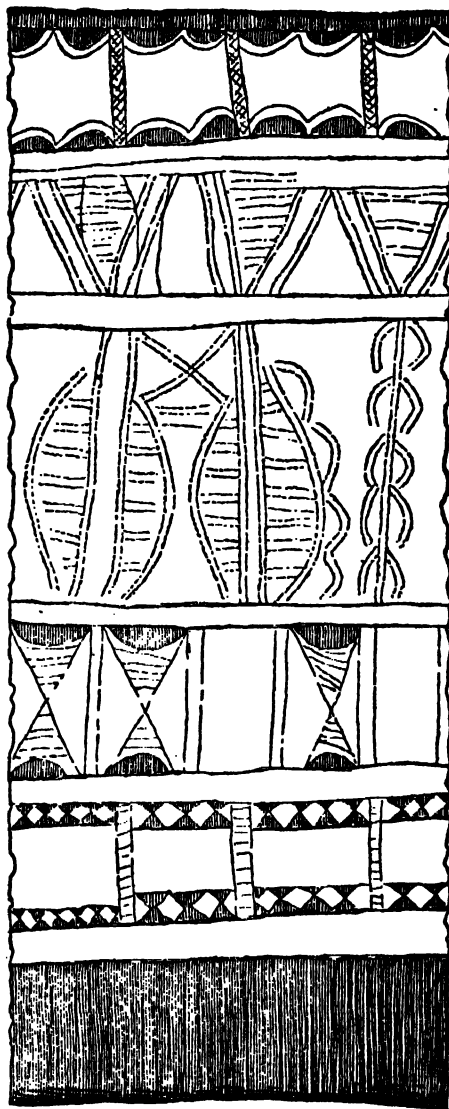


FIG. 2. Projection of Bamboo Cylinder for holding tobacco, etc. Semán—Grit, Upper Perak.

Native names of patterns :—

Top row—'Monitor lizards' (*mudín*).

2nd „ —'Hills' (*pau*).

3rd „ —'Tortoises' (*seoul*) and 'Snakes' Eggs' (*lad yu*).

4th „ —'Calthrops' (*jehlah*).

5th „ —'Growing rice' (*semd*), *i.e.*, probably, rice tied up in bundles for transplanting ; and, running vertically at right angles to last, 'Teeth' (*lamoign*).

The dark shading represents staining produced by cutting away the surface of the bamboo and rubbing in oil.

Scale, about $\frac{1}{2}$

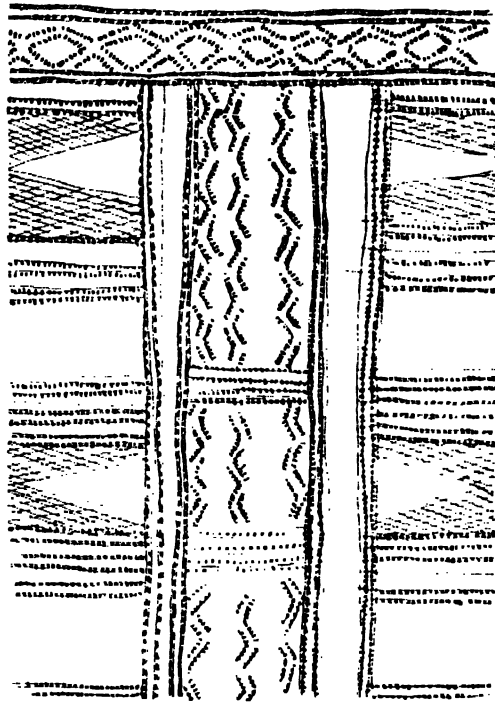


FIG. 3. Incised and Pricked Ornamentation from Dart Quiver, Pô-Klô; Temongoh, Upper Perak. A variety of the 'Argus Pheasant' pattern appears at either side. (In the original the bases of the four wedges are united). C.f. pp. 25, 26, and Plate XII, fig. 1, A, B, C, D; Plate XIII, fig. 1, A.

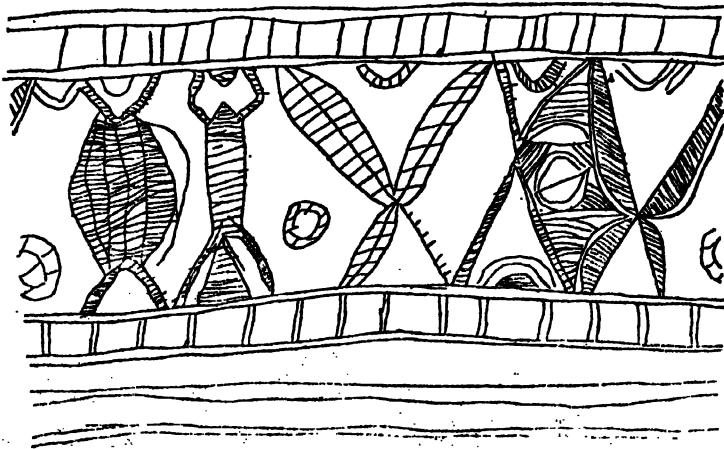


FIG. 4. Figures of Man and Animals scratched on Bamboo Cylinder by Semán. Grit, Upper Perak. The figures, reading from left to right, represent (a) a 'land tortoise' (small round object); (b) a 'man'; (c) a 'monkey' (*Semnopithecus*); (d) a 'land tortoise'; (e) an 'Argus Pheasant'; (f) two 'Argus Pheasants' and a 'river turtle' (*Trionyx*) run together.

Scale, about 3

22/2/02

D

35905

backwards and forwards across the inner surface of the billet. He grasped the peg which kept the cleft open between the great and second toe. The friction caused by the rattan rubbing against the soft wood soon produced a considerable amount of heat, which first blackened the wood and then caused the tinder to take fire. Lifting up the billet, the man had no difficulty in lighting a cigarette at the 'palm-scurf,' which was now smouldering in the cleft.

The Semán do not make any kind of pottery, but employ bamboos of different lengths as water-vessels and cups. They boil rice in bamboos about two feet long, supporting them in a slanting position over a fire of wood. Before it is inserted, the rice to be cooked is wrapped in large leaves, often those of a species of *Caladium*, and only a small quantity of water is poured in. Wild tubers and roots, which form a very important part of their food, are roasted on the embers, as is also done with the flesh of mammals, birds, and reptiles. Near Krunei I came across a fire at which some Semán had lately cooked and eaten a tortoise; judging from the condition of the fragments that remained, the flesh had only been heated through, for they were still red and full of blood.

The only form of basket-work or matting seen in use among the Semán was made of strips of *Pandanus* leaf, in a manner very similar to that in which the sleeping-mats of the Malays and Siamese are constructed. The leaf is shredded by means of an implement—probably obtained from the Malays—that consisted of several little sharp points of iron or copper fastened at equal distances into a wooden handle. It appears to be used throughout the Malay Peninsula, and in parts of Borneo. Porcupines' quills are employed by the Semán, as by the Malayo-Siamese, in adjusting the plaits and forcing the different ribbons close together. Flexible creels of various sizes are thus made; they are carried on the back by both sexes, being held in position by means of rattan strings looped over the shoulders.

The bark-cloth manufactured by the Semán is very coarse and stiff, and I did not see any of the finer quality produced by *Antiaris toxicaria*.

I have referred above to a mortar used by a Semán who suffered from toothache, and it may be well to give a short description of it, as it differed considerably from the rice-mortars commonly used by the Malays and Siamese. It consisted of a rounded block about six inches long, chopped from the stem of a small palm, hollowed out, and bound near the top with a plaited rattan band. The pestle was over two feet in length, and about an inch and a half in diameter; it had been cut from the trunk of the same palm, and was rounded and smoothed with some care.

As Mr. HENRY BALFOUR will describe all the musical instruments that we



Fig. 1. SAKAI (JEHEIRO) WOMEN AND BOY. (Showing extreme variation in character of H₂). JER. LEEAK



collected in the Malay Peninsula together, it will not be necessary here to do more than point out that the flutes commonly manufactured and played on by the Semán are mouth-flutes. I could not gain any evidence that this tribe makes use of nose-flutes. Bamboo 'jews-harps,' very similar to those made by the Malays and Siamese, were also in use among the Semán, and I saw a regular fiddle in the course of construction in one of their camps. They told me that on the occasion of feasts and 'spirit plays' they produced a loud noise by beating on recumbent tree trunks with bamboos, the latter being struck down vertically, so as to act as resonators.

The only indigenous implements used in obtaining food, other than the weapons of the chase, consist of sticks used for digging up roots, and fashioned by roughly sharpening one end of a straight branch with a few strokes of a knife. So little are these digging-sticks regarded as objects worth preserving, that when the point get blunted, as it generally does after a few minutes' use, the stick is broken across to make a new one.

The same digging-sticks are also used in hunting the bamboo rat (*Rhizomys*), which is considered a great delicacy. In this case a smouldering fire of damp leaves is made, and the smoke is wafted into the holes at the roots of a clump of bamboos by means of palm leaves roughly stitched together with the stems of creepers to form small triangular fans. The rodents appear to be stupified by the smoke, and are easily dug out from their burrows.

The camps of the Semán resemble that described near Tanjang Luar, on the Jalor-Rhaman border, but the individual shelters are constructed with rather more care. The slanting screen is usually made of palm-thatch, formed by bending the leaflets down along one side of the mid-rib in each leaf, and then tying the mid-ribs to a framework of sticks in such a way^a that a wall of fairly water-tight material is formed. Other palm leaves are so arranged that they fall over the upper end of the screen and conduct rain-water beyond the edge of the bamboo platform below. To each shelter is attached a kitchen, formed of a log fire protected from the prevailing wind by a similar though smaller screen. When there are young children in the family, another structure of the same character, but provided with a bamboo platform, is often added also. In each case the thatch screen is supported in front by one or more branches slanting up to it from the ground (Plate IV, fig. 2).

Unlike the Sakais of South Perak, the Semán, as already indicated, practice navigation on rafts, on which they are skilled in shooting the rapids that obstruct the watercourses of Upper Perak. These rafts are formed of half-a-dozen or more slender bamboos of about twelve feet long, lashed together with the stems of creepers. When women and children have to be transported, a few more

bamboos of a shorter length are bound on to the middle part of the raft to form a seat. A long pole is used in punting the raft against the stream, and in steering it among the rocks with which the rapids are beset.

Some of the Semán men are good swimmers, but they do not swim in the way common among Europeans, but either paddle through the water like a dog, or else use a side stroke similar to that most commonly employed by the Malays, frequently, indeed, sometimes between each stroke, changing from one side to the other.

The only Semán grave that I had an opportunity of inspecting had been dug in the Malay manner, that is to say, a chamber had been constructed for the reception of the body in the side of a fairly deep trench. Though the body was that of a woman, a wooden grave-post of the type associated in the Malay cemeteries with a male sepulture had been fixed into the ground at the head. The corpse had been fully clothed, and lay on one side in a rather cramped position, both knees being drawn upwards towards the chin. There was no trace of objects of household use having been interred with the body, and the Semán denied that they did this, though they volunteered the information that 'rich Sakais' buried all a person's possessions with him. There was also no sign of the head having been eaten, as has been said to be done. Indeed, we failed to obtain any evidence at all with regard to cannibalism among the Semangs, though a Malay, at Mabek in Jalor, told us that the Hami did not like to be called *Semung*, because they said that the true Semangs eat men.

It has often been stated that the wild tribes of the Malay Peninsula are quite devoid of any form of religion ; but this, as has been already shown by Mr. W. W. SKEAT, and others, is erroneous. Among the Semán both ancestor-worship, or rather ancestor-dread, of a very primitive kind and also the worship of elemental spirits occur ; but, unfortunately, contact with Malays, who, in spite of their own religious tendencies, treat all non-Mohammedan beliefs other than their own with ridicule, has destroyed the ingenuousness of the Semán. It is, therefore, very difficult to learn much about their religious ideas. However, if a death occurs, they desert their camp the moment that they have buried the corpse, which is interred near the shelter where the person died. They told me that they did this because they were afraid of the dead man's spirit (*hantu*). They also told me that they made offerings to the *hantu* of the jungle, and held feasts in their honour. They have dances and songs which celebrate the various fruit trees that they find in the jungle, and these are probably of a religious nature. Their method of naming their children also points to a reverence for trees and other plants. A child born under or near a bamboo, gets the name of 'Bamboo,' whatever its sex may

bè ; if it is born on a heap of leaves, it is frequently called ' Leaf ; ' if in a brake of sugar-cane, ' Sugar Cane,' and so on. The rule, however, is not universal, as children are sometimes named after their birth-place, for example, one of the men measured was called Sapi, because he had been born on a hill in Rhaman called Bukit Sapi. The Semán as a rule showed great reluctance to give anything but the Malay version of their names.

Semán medicine-men enjoy great reputation among the Malays, who told me that some of them, when in a state of trance, could sit on the leaflet of a palm leaf without bending it down.

At Grit, a party of Semán got up, for my benefit, a song and dance in honour of the wild areca palm. At first they refused to perform by daylight, but finally consented to do so. They said that they were ashamed to dance by daylight. Six men squatted on the ground, two of them having bamboo stringed instruments, and the remainder beating on the ground with bamboo flutes, which, for some reason, they refused to play. Two other men put on their heads peculiar dancing crowns, which were made of alternating bands of rhizomorph (*urat batu*) and strips cut from a green *Pandanus* leaf, plaited together in such a way that a broad fringe was left that stood up above the plaited part. At first these men squatted with the rest, joining in the monotonous song, which they proceeded to intone rather than to sing. I could distinguish neither rhythm nor time. After the chant had continued for some little time, the two men with the crowns got up and commenced to dance. The chorus continued the chant, in which it now became possible to distinguish time and rhythm. There appeared to be no co-ordination of movement between the two dancers, who moved about within a very limited space, keeping time to the tune of the stringed instruments with the movements of their arms and bodies. Their bodies were swayed from side to side, and their arms waved in the air ; sometimes one or other of them knelt down on one knee, or even squatted on the ground, but the movements of the hands never ceased. At stated intervals they joined in the chant of the musicians. They did not have any definite steps in common, but one of them usually advanced with two long paces and a short one, which was abruptly terminated by drawing the toes of the right foot up to the left heel.

The Semán have been referred to as a tribe, but it must not be supposed that they have in any sense a tribal organization, for they are divided into a number of camps, each consisting of about half-a-dozen families, and these camps are quite independent of one another. It is true that the headman of the camp which has its headquarters near Krunei calls himself ' Penglima of the Sakais,' but this is purely a Malay title, bestowed on him by the

ex-Raja Muda of Rhaman in return for aid given in elephant hunting. The other Semán headmen do not recognize him as their superior. The headman of each camp appears to be appointed by the Malay whom the men of that camp recognize as their master. The camps are exogamous, the men being obliged to choose a wife from one other than their own. They buy her from her parents. The Malay master of a camp has much the same relations with that camp as the old man at Mabek, in Jalor, had with the Hami, though under British administration his position is not a legal one. As the Semán practice no form of agriculture on their own account, they are necessarily to some extent nomadic, ranging the jungle in search of wild fruits and roots and game ; but it is probable that each camp has a very definite hunting-ground, upon which the men of other camps hesitate to trespass. At the season of the rice harvest, which was that in which I visited Upper Perak, the Semán congregate in the neighbourhood of the villages of their masters, whom they assist in reaping and storing the grain. In return for their services he gives them tobacco, clothes, knives, and the like.

The range of the Semán is determined in a south-easterly direction by the course of the Perak River, which they cross, however, to trade with the hill Sakais on the other bank. They state that they are closely related to the Semangs of Rhaman, whom they regard as their own 'kind ;' but they do not appear to have heard of the Hami, or to know anything of the State of Jalor. Northwards, they claim kindred with the jungle folk of Baling, in Kedah ; sometimes, according to their own statements, crossing over into that state.

(B). SAKAI TRIBES

The first two tribes to be dealt with under this heading are so closely related to the Semang stock, that the wisdom of separating them from it may be doubted. It is hardly controversial to state that they are Semangs with a slight admixture of either Malay or Sakai blood, supposing that it is legitimate to speak of a definite Sakai *race*, which is very doubtful at the present stage of our enquiry. Still, it has seemed better to make the division, seeing that the differences, though inconspicuous, most certainly exist, and that the tribes of Upper Perak, other than the Semán, include persons among their numbers whose hair is nearly straight and whose complexion is very much paler than chocolate.

The Malay nomenclature also of these tribes is confusing, but it is necessary to explain it, for many authors have been obliged to give Malay names to the jungle tribes they describe, simply because they can learn no

others. We, ourselves, as will be seen later, encountered the same difficulty in Selangor, though we have attempted to use the native names whenever possible, believing them to be more accurate. Malay names of tribes can always be diagnosed by the word *orang* (people).

It has already been stated that the people who are called 'Orang Sémang' by the Malays of Upper Perak are not Semangs in the sense in which we have used the word, and that they are not the tribe that calls itself Semán. The Semán, according to our classification, are true Semangs. Now I was told by several Malays at Grit, where only the Semán occur, that the 'Orang Sémang' called themselves 'Jehehr,' but, at the same time, I was told that the 'Orang Sémang,' or 'Sakai Sémang,' were hill-folk, who had no Malay masters, and who were not 'crested,' *i.e.*, who did not wear a top-knot. This description does not apply to the true Jehehr, but to the Pô-Klô, who are said at Temongoh, the chief Malay village in the district where they occur, to be the 'Orang Sémang,' though they are more commonly called 'Sakai Bukit,' or Hill Sakais. It may, therefore, be concluded that in this district, at any rate, an 'Orang Sémang' is a member of a jungle tribe who has no Malay master, and that the name is an indication of social position rather than of race.

The Pô-Klô of Upper Perak (Plates VI, VIII, fig. 2).

At Temongoh, in Upper Perak, some fifteen men belonging to a tribe that called itself Pô-Klô, came down from the hills in the vicinity to see me, but, unfortunately, I had no opportunity of visiting their camps myself. While the majority of these individuals only differed from the Semán of Grit in that they were taller and stouter and did not suffer from skin disease, a few were very considerably paler in complexion, had hair which was straight, and faces of a much less infantile type. Indeed, extremes in both directions existed, for while one of the men was more prognathous, had thicker lips and more prominent superciliary ridges than any other individual whom I saw in the Malay Peninsula, another, the head-man of his camp, could not have been distinguished from a Temongoh Malay except by his dress, and the dirty condition of his body. (It must be noted that at this time several of the women of the village of Temongoh were pure-blooded Kelantan Semangs, or Sakais closely related to Semangs, who had been induced to 'enter Islam,' and that the Malay type was rather different there from what it was at Grit).

The Pô-Klô dressed like the Semán, except that several of them had procured cast-off clothing from a party of Chinese traders, with whom they had recently made friends. I did not see any of the women, but the men

told me that the *urat batu* rhizomorph was not used among them to make girdles, though it was obtained from the Semán to make necklaces, bracelets, and head-dresses. Several of the men wore long strings of hard, black and grey seeds round their necks, and had on their heads garlands of flowers and sweet-scented grass. They had all shaved their hair and did not leave a topknot. The septum of the nose was pierced. None of them were tattooed or scarified.

It is the Pô-Klô who now¹ make the bows and arrows usually attributed to Semangs, who occasionally, but very rarely, buy these weapons from them. The bows, judging from specimens apparently from this district, in the State Museum at Taiping, are stout, though of no great size, the strings of twisted vegetable substance, and the arrows provided with steel heads. The Pô-Klô are very jealous of their bows, and refused to bring them for me to see, but they were most positive, as also were the Malays of the village, that they were able to make the arrow-heads, beating them out with a stone, when hot, from scrap-iron they procured from Malay or Chinese pedlars. They brought me the teeth of bears and the frontlets of the Malay serow (*Nemorbaedus swettenhami*), which they said they had procured by shooting the animals with poisoned arrows. From what was told me by them and the Temongoh Malays, who, it must be remembered, have a strain of Semang blood in their own veins, it seems probable that a large proportion of the horns of this antelope that are sold in different parts of the Malay Peninsula, especially in the state of Legeh, as charms and medicine, are originally procured by Sakais living in the mountains, though the beast is so wary that only one specimen has ever been shot by a European, and only two skins, which were obtained by ourselves, ever brought to Europe.

In describing the blowguns of the Semán I have described those of the Pô-Klô also, as the majority of them are probably made by the latter tribe.

The Pô-Klô quivers², however, differ very much from the uncovered bamboos used by the jungle men round Grit, being by far the most elaborate we saw in the Malay Peninsula. Like that procured from the Hami, they are made of a coarser species of bamboo, but, unlike them, they have tight-fitting conical covers, plaited out of the creeping rhizome of a fern known to the Malays as *Paku Ribu-ribu*, probably a species of *Lygodium*. Fibres of slightly different shades are often chosen in making these covers, and are so arranged as to form contrasting zones upon them, the plaiting being so close that they are quite watertight. The outer surface of the bamboo is invariably decorated with an incised pattern recognized among all the people of this district as representing an Argus Pheasant. As will be seen from the figures,

1. See Note on Semán weapons, *ann.*, pp. 12-14.

2. Plate XII, fig. 1, A, B, C, D; Plate XIII, fig. 1, A.

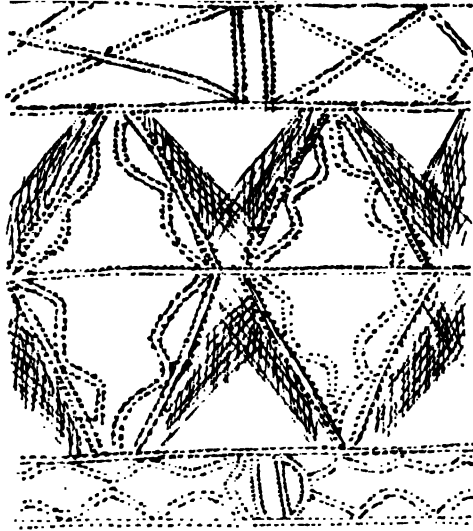


FIG. 5. Incised and Pricked Ornamentation from Bamboo Dart Quiver. P6-K16; Temongoh, Upper Perak. In the centre a more elaborate variety of the 'Argus Pheasant' pattern (c.f. Figs. 3, 6; pp. 17, 25, 26). Scale, about $\frac{1}{2}$

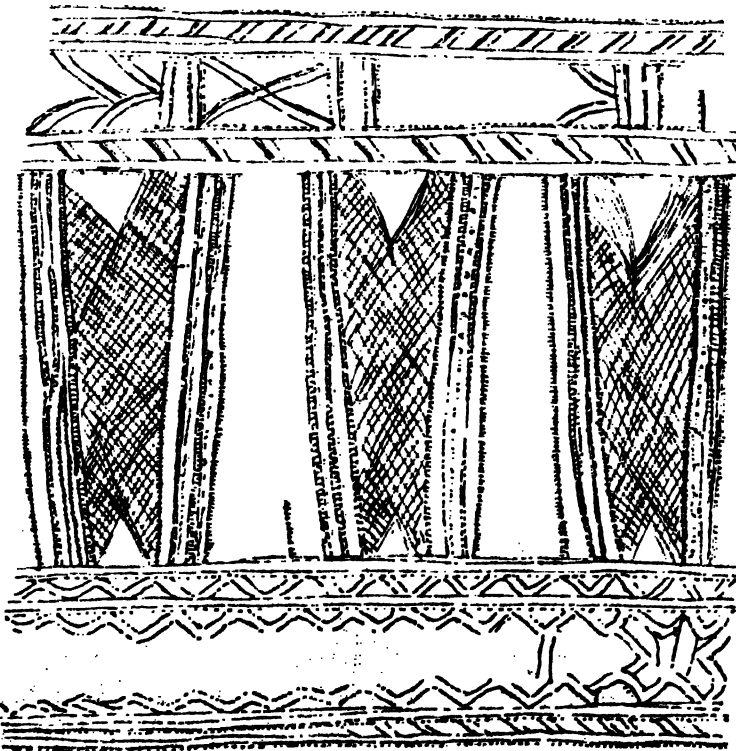


FIG. 6. Incised Ornamentation from Bamboo Dart Quiver. P6-K16; Temongoh, Upper Perak: In the centre a variety of the 'Argus Pheasant' pattern (c.f. Figs. 3, 5; pp. 17, 25, 26).

this pattern consists essentially of a couple of wedges uniting at the base. These are held to portray the two long tail feathers which are so conspicuous a feature of the species. The 'Argus Pheasant' pattern is almost a trade mark of the Pô-Klô, when seen on quivers from this district, as it appears only to be adopted by them, though specimens of the kind are often seen in use among the Semán and Jehehr, having been bought from or exchanged with the hill men. I was unable to discover a single instance in which such a quiver had actually been made in the plains. The Pô-Klô are the artists and artificers of the jungles of Upper Perak. They also carried tobacco pouches made of shredded *Pandanus* leaf or grass, and provided with flaps to cover the orifice. The plaiting was very neat, though the ribbons were coarser, or rather wider, than in some specimens I have seen in other parts of the Malay Peninsula, and the pouches were decorated with squares and oblongs of turmeric daubed upon them, in a way not seen in any other tribe.

Unlike the tribes hitherto described, the Pô-Klô build regular houses, which I have seen from a distance through a field-glass while travelling on the Perak River and its tributary, the Temongoh. As far as could be judged, they resemble the houses of the Mai Darát, to be subsequently described. I never saw more than three in any one clearing, though the latter were often of considerable extent. Millet (*skuey*), tapioca, and bananas are cultivated in these clearings, though the Pô-Klô themselves told me that they had no agricultural implements but pointed sticks. The Malays make great fun of them, because they say that rice makes them sick and therefore refuse to eat it.

The Pô-Klô also told me that they had a breed of dogs different from the ordinary Malay pariahs, but they would not bring them down into the village; from their description these dogs appear to be the same as those we had seen among the Sakais of South Perak, but very possibly may be of purer breed.

The names of individuals of this tribe seem to be given in the same way as is the case among the Semán, but they were willing to give the native rendering of them, probably because they knew less Malay. Fathers often assume the name of one of their children with the prefix *pa* (father). The head-man of a camp takes the title *pali-mon*.

The Pô-Klô owe allegiance to no Malay master, and, indeed, appear to have had very little communication with the Malays until quite recently. While I was at Temongoh the Malay headman of the village was away on the Rhaman border, registering the plantations of the hill Sakais, and making a record of the durian trees, over which they claimed ownership, in the jungle. This question of the durian trees, which have probably been propagated by accident or naturally, but over each of which ownership is claimed by some



SAT (P'Ō KŌŌ MI

ŌŌ, UTTER P



THREE OF SAME MEN SEATED (2nd, 4th, and 3rd from left in Fig. 1)
(Profile: Plate VIII, Fig. 2)



SASAK (JERU) MEN IN ATTITUDE OF REST;
TEMONGGOL, UPPER PERAK.

particular 'aboriginal' community, is one which the Perak Government investigates with the utmost care. A party of Chinese traders had settled at Temongoh shortly before my visit, and had entered into friendly relations with the Pô-Klô, to whom they made presents of cloth, glass beads, tobacco and the like. It was through their influence that the hill people were induced to come down to see me. It is very probable, however, that Malay outcasts have, from time to time, joined the tribe and become members of it.

The Jehehr of Upper Perak (Plates V, fig. 1, VII, VIII, fig. 1).

At Temongoh, also, I met some thirty individuals, men, women, and children, of a tribe whose native name is Jehehr; while the Malays call them *Sakai Tanjong*, on account of their habit of camping on capes jutting out into the river. On the Perak river between Kuala Temongoh and Kuala Kendrong I saw a few more of these 'Cape Sakais,' as well as several camps deserted by them.

In physical type the Jehehr only differ from the Pô-Klô in being rather emaciated, and in suffering from skin diseases of various kinds. The physical variation they exhibit is just as remarkable. The clothing of the men is identical with that of the Pô-Klô, and the women do not wear the *urat batu* girdle. I noticed that several of the children wore a twisted string round the head and the lower part of the forehead, while the majority of the men wore fillets rather higher on the brow. These fillets consisted, in some cases, of filaments of *urat batu* tied behind the head, in others, of narrow bands of *urat batu* and vegetable fibre plaited in alternate bars, the fibre being dyed of a bright yellow. In some cases the place of these fillets was taken by garlands of sweet-scented grass tied with teased-out bark cloth. The nasal septum was pierced in the case of the men, and the young shoot of some zingiberaceous plant, that was used as a nose-skewer in the jungle, was thrust behind one ear on approaching the village. A few of the women had necklaces made of glass beads strung alternately with the incisor teeth of monkeys, as they told me, of the *Lotong* (*Semnopithecus obscurus*). As a rule the Jehehr shave their hair in the Semán manner, leaving the top-knot.

This tribe procures its blowguns and quivers from the Pô-Klô, and most of its household implements and utensils from the Malays. Its members seem to be even more poorly provided with objects of their own manufacture than the Semán.

The shelters constructed by the Jehehr differ in no respect from those of the Semán, but are sometimes arranged in a row so as practically to form a

communal abode, being placed in close juxtaposition to one another. This form of camp, however, is due to the exigencies of its site. I have seen two camps constructed by the same people within a few weeks, and while one of them was of the type just noted, the other was arranged round a tree. The reason for the difference was that the first was built on a narrow shelf upon a bank, while the other was at the top.

The Jehehr are more careless in disposing of the bodies of their dead than any other Sakai tribe whom we encountered. The Malays at Temongoh complain that they are often compelled to bury corpses left lying near the village; sometimes the body is cast into the river, and if it is buried it is only covered with a very thin layer of soil.

As a rule the Jehehr do not practice agriculture, and do not possess dogs of the Sakai breed, though they may obtain pariah puppies from the Malays; but I was told at Temongoh that occasionally they lived in the same manner as the Pô-Klô. They occupy the same position in respect to the Malays as the Semán do. When the strip of territory in which both Grit and Temongoh lie was handed over by Siam to the Perak government, in 1899, the head man of the latter village was forced to set free his Malay slaves, being paid very handsome compensation for the loss of their services, but his Jehehr dependants were not considered to be slaves, unless they were actually living as servants in his house. At least two Sakais, who occupied this position, and who had become Mahommedans, ran back to the woods on being legally released from bondage, and 'cast away Islam.'

It is interesting to note that the Jehehr are not absolutely confined to one bank of the river, for I saw them crossing from a camp on the east bank to one on the west. They rarely go far from the river, however, and appear not to extend across the new frontier into the Siamese States.

Mai Darât of Batang Padang (South Perak) and the Perak-Pahang border.

(Plates VIII, fig. 3, IX, X)

In the Batang Padang district of South Perak, and at Telôm on the Perak-Pahang border, we met with several hundred individuals of the Sakais of that neighbourhood, both those who lived in the vicinity of towns and villages, and those who inhabited the high mountains, far from any community of the settled population. We could discover no distinction between them, except that the hill folk showed a tendency to a slightly more yellow skin, especially on the face—a difference probably due to climatic rather than racial causes. There is no reason to believe that any of the Sakai camps of this district have as yet had their blood mingled with that of Malays or other races to any appreciable



(PG K 1) HEADMAN
Plate VI.

JOH. UPEH - PERAK
(on left)



SARAK YOUTH AND GIRL, with Leaf Girdle.
BALANG PADANG, SOUTH PERAK.
(Photo from G. B. Cantile, Eng.)

extent, at any rate as far as the adult population is concerned and in modern times ; for it is only within the last fifteen years that Batang Padang has been sufficiently opened up to admit Malay, Chinese, and Indian settlers. It does not appear that the upper valley of the Batang Padang River was ever within the sphere of purely Malay colonization, and towns such as Tapah and Bidor practically owe their existence to recent enterprise under British protection.

The census report of 1901 gives the population of Batang Padang as—

Malays of all nationalities	-	-	-	-	7,387
Chinese	-	-	-	-	9,461
Tamils	-	-	-	-	2,693
Other natives of India	-	-	-	-	203
Aborigines	-	-	-	-	2,808

Of the 'aborigines,' 1,526 were males, of whom 502 were under fifteen years of age ; 1,282 were females, of whom 393 were under fifteen years of age. These figures show a slight increase in the number of 'aborigines' enumerated in 1891, probably due to more careful and systematic organization of the census ; it is very improbable that all the Sakai camps were visited even in 1901, as it is known that the taking of the census caused great alarm among them, and that many families made preparations to cross the border into the neighbouring State of Pahang, where no enumeration of the aborigines was attempted. The area covered by virgin jungle at high elevations in this part of the Peninsula is so great, and the country so difficult, that it is quite possible that aboriginal tribes may exist that have never even seen a Malay, much less a European. Moreover, the number of young children and women was almost certainly underestimated, even in those families visited by the enumerators. The total aboriginal population of Perak in 1901 is given as 7,982 ; but the census has evidently been taken with less care in some districts than in Batang Padang ; while in one, for some reason, an unspecified number of Tamils, Cinghalese, and other 'natives of India' is included in the 'aboriginal' total. The only other district where the number approaches that in Batang Padang, is Upper Perak, where Sakais and Semangs (*antea*, p. 9) are both included. Leaving Kinta out of consideration, as it is in this district that the Indians have been included, Kuala Kangsar comes third with 1,021 aborigines of both sexes and all ages.

Judging from the numbers of Sakais and Semangs we have ourselves seen in Perak, we should regard 20,000 as a conservative estimate of their numbers in that State, and we do not think that contact with civilization, which, moreover (especially as regards the Sakais) is extremely recent, shows any tendency, at

present, to lessen their actual numbers. Wholesale destruction of the jungle must do so, if it ever takes place on the main range of the Peninsula; but, as far as can be seen, this is an unlikely contingency. Intercourse with Chinese and other races, however, will undoubtedly tend to destroy the purity of their blood, and it is probable that the wild tribes will be gradually absorbed into the mixed racial type that is now being evolved in the Federated Malay States.

The Sakais of Batang Padang call themselves, as a race, *Mai Darát*, which means 'Men of the Country.' They consider the name *Sakai* insulting, and Malays only use it in their absence, calling them *Orang Dárat* in conversation—a name which is the exact equivalent of their own term. It must be noted, however, that in some parts of the Malay Peninsula, for instance, in Patani, *orang dárat* means 'countrymen' as opposed to men of the towns and larger villages.

The *Mai Darát* are far more variable in type than the Semangs, but hardly more so than the Sakai tribes of Upper Perak. Speaking generally, they are fairer than either, for a considerable proportion of them have yellower skins than the Malays of their district, while some approach a Hylam Chinaman in complexion. A point in which they notably differ from the Semangs is that their faces are, as a rule, paler than their bodies, even than those parts which are more or less protected. In some individuals this peculiarity is very marked. The skin of infants is paler in comparison with that of adults than in the case of Malays. Their features are more delicate, and at the same time less infantile, than those of the Semangs, and many of the young men and women are good-looking, even from a European standpoint. In the case of the thirty-seven persons examined, the epicanthus was absent in fifteen individuals, very slightly developed in eight, rather more so in four; in two it covered rather less than a half of the caruncle, in seven between a half and two-thirds, and in one more than two-thirds. The colour of the eyes was generally black, but in a few cases reddish-brown. The noses were, with a few exceptions, negroid in outline, with broad alae; but two types could be distinguished, one almost devoid of a definite bridge and the other in which it was well defined. As a general rule the lips were thinner than those of the Semang, being certainly no thicker than those of the Malayo-Siamese. The faces were broad, rather more arched than those of the Malays of the district, and pointed towards the chin. Prognathism was often absent, never excessive, but frequently present.

In most cases all hair had been artificially removed from the face by means of forceps, but it would evidently have been scanty in practically all cases. There was but little hair on any part of the body, except the pubes,

though one man had a considerable growth on the lower part of the legs. The hair of the head was always black, but frequently had a marked brownish tinge, which was probably due in part, though perhaps not entirely, to lack of care and exposure to the weather. (Undoubtedly black hair loses its pigment, if neglected or exposed to sun and damp; an instance of this came under our observation in the case of a Siamese belonging to the state of Nawng-chik, who had made a vow not to cut or tend his hair. On the scalp his hair was perfectly black, but it became paler the further it was from the roots, until on a level with the back of his knee it was a pale brown, but little darker than tow. The same thing may be observed among the little Orang Laut and Malay boys, who dive for coins in Singapore harbour, though the sea-water in this case may be an additional factor). In character the hair of the Mai Darát varies from straight to woolly, extremes in either direction being very rare; but the intermediate varieties are so numerous that it is impossible to express them adequately by any system of nomenclature. The investigation is further complicated by the fact that, under Malay influence, the people are beginning to cut their hair short, or even to shave their heads. In the case of men, in whom there is no reason to suspect the presence of alien blood, the hair, when it has not been cut, either hangs down on the shoulders or else stands out round the face in an aureole¹ quite comparable to the 'mop' of a Papuan. This aureole is largely an artificial product, produced by careful and frequent combing; but it cannot be produced unless the hair is of a stiff and frizzly nature. There are many Mai Darát who could not produce it, and whose straight or wavy locks cannot be forced to stand out from the head. In the case of women, an attempt is often made to make the hair appear straighter than it naturally is, probably in order that they may seem like Malays; it is plastered down with oil and dragged back from the roots, so that it may be made up into a bunch behind. We believe that considerable confusion has been caused owing to anthropologists not realizing that the hair of two Sakais of equally pure blood is not necessarily of the same character. The hair of the Mai Darát women may reach a considerable length, and in neither sex does it appear to be naturally shorter than that of a Chinaman or Malay. We noticed that both curly and wavy hair were extremely rare among very young children, though they were common among boys and girls of about ten years old. It is very improbable that this is due to intercourse with straight-haired races, for the Mai Darát are extremely jealous of the virtue of their women, and we have seen instances in point where the paternity was undoubted. It is, therefore, almost certain that a change takes place in the

1. None of our figures give any idea of the extent to which this 'mop' is sometimes developed.

character of the hair between infancy and puberty. We are not yet in a position to speak of the microscopic structure of the hair, but one of us hopes to do so in a succeeding paper.

The mean height of thirty-four men was found to be 1524 mm. In figure the Mai Darát resemble the Semangs, except that the upper part of the body often appears disproportionate to the lower limbs. Otherwise they may be described as lithe and well-made, though in a fair number of instances observed the abdomen was somewhat protuberant. The breasts of the men, especially those who are well nourished, are often developed to an extent quite unusual among the Malays and Malayo-Siamese of the Peninsula; those of the younger women are well formed and conical, rarely flaccid or pendulous. The fingers are long and tapering, but the carpals and metacarpals comparatively short. Though the feet are used for prehension to a considerable extent, and the hallux is to a certain degree opposible, there is not always a very marked separation between it and the second digit, as there was in those Hami whom we saw. The toes of two infants examined were all of approximately the same length, so that the front line of the foot was almost square. The legs are straight and slight, but have not the emaciated appearance of the legs of a Tamil: the calf is always well developed.

All that has been said with regard to the movements and attitudes of the Semangs applies equally well to the Sakais. In conversation they make use of gestures to a considerable but not excessive degree: the movements of their hands are dignified and expressive. Their gait is that of the other jungle tribes. We noticed that their toes were pointed in front of them when they were walking, and that in their tracks each footprint was almost straight in front of the preceding one. Their feet were not spur-heeled.

The greater number of the men we met were suffering from *kurap*, a kind of skin disease which causes the skin to desquamate all over the body and limbs. The women appeared less liable to it than the men. Like the Semangs, they greatly fear 'hot rain,' believing it to be the cause of ague, to which they seem to be very liable. They also avoid the direct rays of the sun, and dislike being wetted by rain; but they must be exposed to considerable changes of temperature at high altitudes. They, too, have a reputation as herbalists, but probably are only a little less ignorant of the true properties of vegetable drugs than the Malays, though undoubtedly they collect simples of many kinds. Their chief panacea is magic, but, unlike the Malays, they make medicinal use of the hot springs not uncommon in South Perak.

For clothing the men wear a T-bandage which exactly resembles that of the Semán, except that the straight cloth or bark cloth of which it consists is

even narrower. Not infrequently it is so exiguous that it does not properly conceal the genital organs ; Mr. LEONARD WRAY, of the Perak State Museum, showed us photographs of men belonging to the Batang Padang district in which it was evident, as he pointed out, that slits had been cut in the bandage so that the testicles projected on each side. The Mai Darát men consider that the requirements of decency are satisfied by the concealment of the penis ; but children commence to wear some clothing among them earlier than among the Malays of the less cultivated districts of the Peninsula. The women, as a rule, dress in the Malay *sarong*, which covers their persons from the waist to the ankles, and wear, in addition, a cloth disposed diagonally across the breasts. This also serves as a convenient receptacle for objects of various kinds. Up in the mountains, however, we saw some women who wore nothing but a narrow wrapper of bark cloth round the waist. Mai Darát men, who are in the habit of visiting Chinese villages, are noted for the richness of their costumes, which often include silk trousers and jackets ; but these refinements are only for town wear, and are discarded in the jungle. Not infrequently the women wear girdles of teased-out bark and leaves, with great bunches of the same materials standing out from the hips (c.f. Plate IX, fig. 3). Young married women wear beneath their *sarong* or petticoat a belt formed of a number of strands of twisted vegetable fibre—probably derived from a palm—of a glossy black colour. These are discarded when the child-bearing age is past. It is curious that the substance out of which the belts are made bears a superficial resemblance to that used by the Semangs, though its origin is quite different.

Both sexes often wear on the forehead a fillet of bark cloth, which is tied behind the head. The substance used for this purpose is made from the bark of the young Upas tree (*Antiaris toxicaria*), and is cut into strips some three inches broad and two feet long. As a rule, the fillets (Plate XII, fig. B) are decorated with rough geometrical patterns and patches painted in red or yellow, the cloth itself being of a pale cream colour. The coloured lines form a groundwork for designs stamped on them in black, and consisting of dots arranged in rosettes or thinner lines. It is probable that these dots are produced by means of a stamp, for the surface has obviously been compressed where they occur, and a careful examination of our specimens leads us to believe that certain series of them are reproduced in facsimile over and over again in the same design. Other fillets are made of short lengths of grass and vegetable fibre of different natural colours strung together in bands. Garlands of sweet-scented grass, shredded banana leaves, flowers, and other vegetable substances are sometimes seen on the heads of men and women. The women of the country round Bidor wear strands of cotton thread, dyed by themselves with what is probably a species of

wild indigo, across their foreheads, fastening them behind with streamers of teased-out bark. Scarlet *Hibiscus* flowers are often stuck into the hair of young women, either just over one or both ears, or in a semi-circle across the top of the head.

The women, and probably also the less sophisticated men, wear combs and hairpins, made either of bamboo or wood. The hairpins, which are fastened in an oblique direction in the hair at one side, are flat, dagger-shaped skewers, often of a beautiful species of bamboo, the surface of which is naturally figured with rich brown. The combs are of two very distinct types, only one of which was found in use among the Semangs. It is always of bamboo, with a variable number of teeth and a high decorated back-bone, and is worn upright much in the fashion of the tortoise-shell combs of the Cinghalese. Both the hairpins and the combs of this type are generally ornamented with incised patterns, each of which has been stated to have a mystical meaning. Geometrical designs are most common upon them, but realistic plant forms sometimes occur, (Figs. 10, 12*d*) and, occasionally, what may possibly be highly conventionalized ornithomorphic figures (Fig. 12*a*). The rude beast forms so common on bamboo objects made by the Semán appear to be unknown to the Mai Darát, and we did not see the 'Argus Pheasant' design of the Pô-Klô either in South Perak or at Telôm, unless the design in Fig. 12*e* can be regarded as a variant of it. The other form of comb consists of three or more cylindrical splinters of wood, tapering to a point, and very neatly bound together at the other end with dark fibre, which is plaited with great care. The two outer teeth are prolonged above the point of junction into horn-shaped projections extremely graceful in design (Fig. 8).

Both sexes pierce the septum of the nose and introduce into the hole thus made either metal skewers, porcupines' quills, or other slender cylindrical objects. These are removed, however, in the vicinity of settled communities, for fear of ridicule.

Earrings are sometimes, but by no means invariably, worn both by married women and by unmarried girls, but very often only the lobe of the right ear is pierced. The earrings are made either of metal or of bamboo. In the former case they are obtained from Chinamen or Malays, and consist of disks of brass or silver, often as large as half-a-crown. The bamboo specimens are hollow cylinders decorated in the same manner as the combs; a specimen before us measures 44 mm. in length and 27 mm. in diameter. It was worn thrust through the lobe, and a bunch of sweet-scented grass was passed through the aperture.

The younger women decorate their arms with spiral coils of stout brass wire,



SAKAI (MAI DARÁT) MAN, with Blowgun and Quiver
BATANG PADANG DISTRICT, S. PERAK.
(Photo from G. B. Cerruti, Esq.)



SAKAI (MAI DARÁT) MAN, with Loi
BATANG PADANG DISTRICT, S. P.
(Photo from G. B. Cerruti, Esq.)



SAKAI (MAI DARÁT) FAMILY;
BATANG PADANG DISTRICT, S. PERAK.
(Photo from G. B. Cerruti, Esq.)



SAKAI (MAI DARÁT) MEN AND WOMAN,
under temporary shelter of Banana leave
BATANG PADANG DISTRICT, S. PERAK
(Photo from G. B. Cerruti, Esq.)

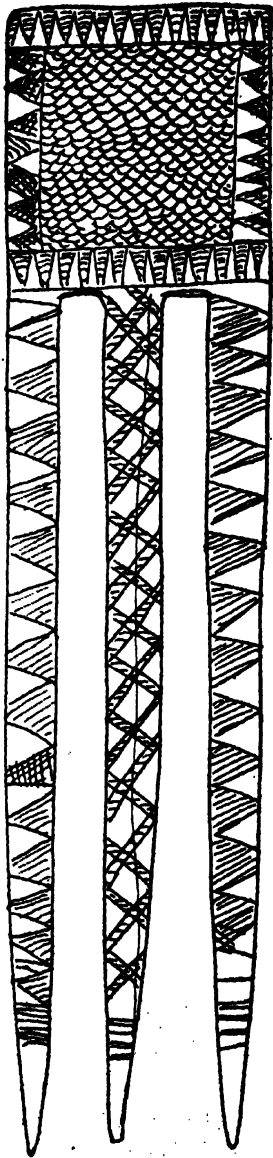


FIG. 7. Bamboo Hair Comb.
Mai Darát; Batang Padang, South Perak.
Scale, about $\frac{1}{2}$

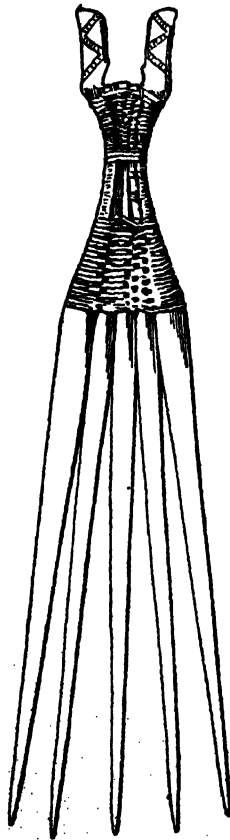


FIG. 8. Woman's Comb, inserted
in hair at back of head.
Mai Darát; Batang Padang,
South Perak.
Scale, about $\frac{1}{2}$

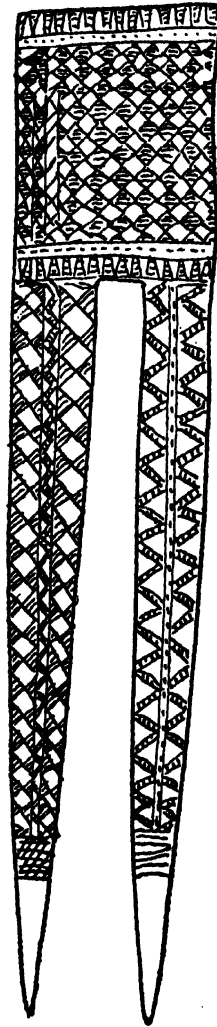


FIG. 9. Bamboo Hair Comb.
Mai Darát; Batang Padang,
South Perak.
Scale, about $\frac{1}{2}$

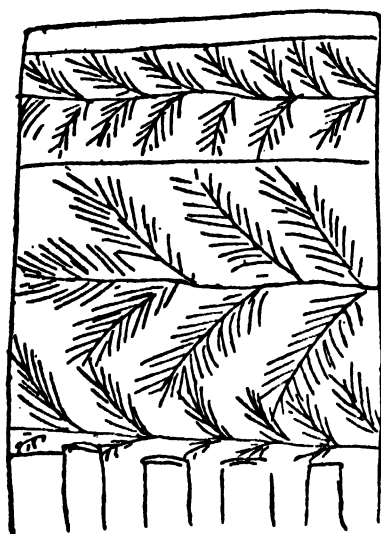


FIG. 10. Naturalistic Plant Design (*Selaginella*)
on Bamboo Hair Comb. Mai Darát ;
Batang Padang, South Perak.
Scale, about $\frac{1}{3}$

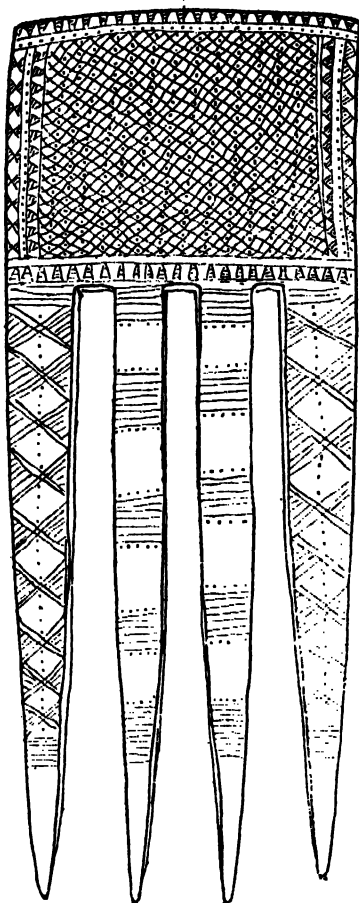
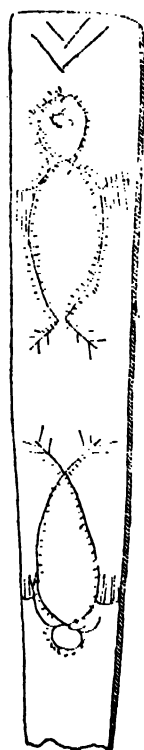
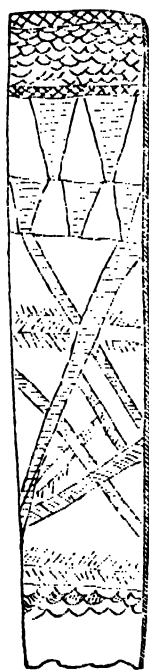


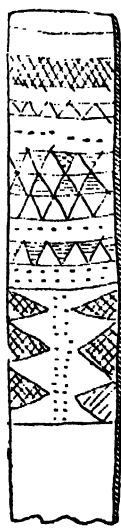
FIG. 8. Bamboo Hair Comb. Mai Darát ;
Batang Padang, South Perak.
Scale, $\frac{1}{3}$



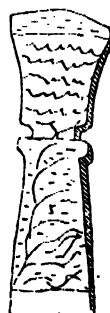
(a)



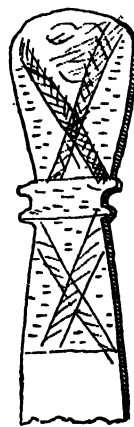
(b)



(c)



(d)



(e)

FIG. 12. Incised Ornamentation on Bamboo Hairpins. Mai Darát ; Batang Padang, South Perak.
Scale, about $\frac{1}{3}$

which frequently press so closely into the skin that they must cause great discomfort. Necklaces of glass beads are in use among both sexes, being generally composed of brilliant colours, such as red, blue, and green, alternating with single white beads. We did not see among the Mai Darát either the seed necklaces or the monkey-tooth necklaces and bracelets worn by the Jehehr and Pô-Klô. At Telôm we procured a specimen of a different character, which was worn by a man, who considered it 'strong medicine.' It consisted of a number of canine teeth belonging to different animals, strung together with several Dutch silver coins of the eighteenth century, a modern Straits Settlements cent, a Chinese 'cash,' a large amber bead, and a marine shell. The items were so disposed that the coins hung in front and the teeth on either side.

On festal occasions, such as marriages and magical performances, both sexes are said to paint their faces and bodies, but we only saw this done in the case of women. The patterns consist of broad black lines disposed on the cheeks, foreheads, noses, chins, and bodies, very much in the same way as the ground-work patterns of the bark-cloth fillets. Upon these, dotted designs in red, yellow, and white are impressed by means of a comb-shaped stamp of tortoise shell, which is dipped in the various pigments and then applied to the skin. When in the jungle the men paint a black line down the bridge of the nose, using a burnt stick if no other pigment is available. This they too believe to constitute a prophylactic against injury by thorns. Not infrequently the line is prolonged up across the forehead, running through a lozenge-shaped outline between the brows, and sometimes a more elaborate pattern is drawn, like an inverted M with double outlines, just above the eyes. Very possibly the more elaborate designs may also have their special meaning. The transverse lines on the cheeks, commonly seen in Upper Perak, were not noticed in Batang Padang. We saw no instance either of tattooing or ornamental scarification. On a journey the younger persons of both sexes carry roughly triangular pieces of the flower-spathe of a palm with which to fan themselves.

The weapons of the Mai Darát are spears and blowguns (Plate XI). The former consist of strips of bamboo sharpened at both ends, about two-and-a-half feet long and three to four inches wide at the broadest part. These appear to be sometimes used without a haft, but as a rule they are bound to a stick between six and seven feet long by means of lashings of rattan. The spears are either used as such or fixed in spring traps, in which the cut stem of a sapling is bent in an arc, being released by the breaking or violent twitching of a string stretched across a game track and then launching the spear. It is unnecessary to describe these traps at greater length, as comparison of our diagram with one given by LING ROTH¹ from a type used by some of the Malay and Dyak tribes of Sarawak,

1. *The Natives of Sarawak and British North Borneo*, Vol. II, p. 440. London, 1896

shows them to be identical. It may be noted that the force with which the spear is launched is very considerable, and we have seen it driven through both sides of a strongly made wicker basket. The traps are set, in most cases, for deer or pig, but they are also used to protect the camps from undesirable visitors. When we were at Telôm, the Sakais, having lately committed a murder among themselves, concluded that we were government officials sent to spy upon them, and, therefore, warned us not to come to their principal camp, because they had set traps round it. That this was quite true one of us learnt by practical demonstration, for the spear whizzed between his legs. As a rule the presence of a trap across the path is indicated by a bunch of leaves suspended on cross sticks a little distance from it on either side.

The blowguns made in this part of Perak are essentially the same as the one procured from the Hami, for *Bambusa Wrayi* is apparently unknown to the Mai Darât. The necessary length of bamboo is obtained, however, in two ways, both of which may be used on the same blowgun. The one is that of splicing, the other that of removing the septum which divides two nodes of the same stem. The latter operation is performed by striking the septum with the midrib of a species of palm that is both slender enough to enter the bamboo and strong enough to sustain the necessary force. This instrument (Plate XI) is not sharpened to a point, but cut off almost square. After the septum has been removed, a bunch of coarse fibre, apparently also derived from a palm, is introduced at the end of a long stick (Plate XI) and rotated inside the cylinder, until the inner surface is of a uniform polish and the bore of the same diameter throughout its length. The outer tube is frequently ornamented in much the same way as that of the Hami specimen, but the incised patterns are less extensive and the use of dotted designs less frequent. The mouth-pieces are of wood, and are never conical. Though several accurate descriptions of the manner in which the blowgun is used by the Sakais have been already published elsewhere, it may be as well to add a few words on what we observed ourselves. The dart is first introduced at the breech, that is to say at the end marked by the mouthpiece. The aperture then loosely plugged with the 'palm-scurf' to which we have referred, it being a light and silky fibrous mass derived from the trunk of a palm, and always carried by the Sakais for use both as wadding and as tinder. The blowgun is kept loaded in this manner, and when a bird or beast presents itself, is immediately raised to the lips in such a way that the tube is directed upwards to a point above the object aimed at, with an inclination varying with the distance. The dart is then projected with a sharp expiration. The aim is usually



Fig. 1. MAI DARĀT YOUTH. BIDOR,
BATANG PADANG, SOUTH PERAK



Fig. 2. MAI DARĀT WOMEN, with Painted
Faces. BIDOR, BATANG PADANG, SOUTH
PERAK



Fig. 3. Same Women as in *Fig. 2.* Woman on left wears Head-dress

very correct up to about twenty-five yards, beyond which it is uncertain, though the range may be much greater.

The quivers of this tribe are never ornamented like those of the Pô-Klô, but are finished very neatly and have covers made of extremely flexible and fine basketwork, the material of which consists of narrow ribbons split from the stems or roots of rattans and ferns. These covers are shaped like cowls, and often extend for some inches above the top of the quiver. They are used as receptacles for the 'palm-scurf,' and are sometimes provided with a network of rattan, which prevents it falling down among the darts. The material of which the quivers themselves are made is a large bamboo, probably a species of *Macrocalamus*, which is believed only to grow on high ground. The outer surface in well-seasoned specimens is of a rich dark-brown colour, which the Sakais do not destroy by incised ornamentation. Each quiver has some resin daubed on its base, and this is probably used to produce the fine polish exhibited by many of the specimens. The dark colour is further intensified by the smoke of the fire, over which the quivers are suspended in the Sakai houses. Plaited rattan is often bound round the quiver, and serves as a point of attachment for the string by means of which it is fastened to the hunter's belt. This string is tied to the bone of an animal, generally either a squirrel or a monkey, or to a piece of wood, which is twisted into the waist-cloth, a type of fastening which differentiates quivers made in the Malay Peninsula from those of Bornean tribes.

The poisons used in South Perak appear to be made from the same ingredients and in the same manner as in other parts of the Peninsula. The darts and poison palettes are indistinguishable from those of the Semán, and the quality of the poison is indicated upon the cones of the darts in the same way as in Upper Perak. The upas tree, as well as its chief product, is called *ipob* by the Mai Darát, and the strychnos, *bruyal*, but *ipob* is also a general term, used both among the wild and the civilized tribes, for all dart poisons manufactured by the former.

The Sakais are naturally averse to wasting their darts, and it is difficult to persuade them to do so in mere display. They prefer to capture birds alive, by means of snares or birdlime. The former are used for the larger kinds of ground birds, such as the Jungle Fowl (*Gallus gallus*)¹ and the Argus and Peacock Pheasants (*Argusianus argus* and *Polyplectron bicalcaratum*). Smaller, tree-haunting species are more commonly caught by means of twigs smeared with birdlime and disposed among the branches of trees in fruit. The birdlime is procured from a variety of trees and creepers, and the

1. The Jungle Fowl is probably, and the Pheasants are possibly, immune to *ipob*.

twigs, when not in use, are stored in bamboo receptacles resembling the quivers of the Semán, except that they are far less ornamental, rarely having more than a few simple lines engraved upon them.

Bows and arrows are not used in this district, and we did not see the prickly cudgels observed among the Hami and the Selangor Sakais. Pellet-bows, though common in the northern half of the Peninsula, appear never to be made by the jungle tribes.

In a Sakai house at Telôm we saw fish-traps of several patterns, which differed in no respect, as far as we could judge from a superficial examination, from those in common use among the Malays of the less civilized parts of the Peninsula. On one occasion a whole camp of Mai Darát was surprised fishing on a pebbly bank in the middle of a rapid stream. They had dammed one branch of the river and were scooping out the fish from the pool thus formed in a baling-basket very much like that used by all races of the Peninsula for catching the small fry of the flooded rice-swamps. Unlike the Semán of Upper Perak, the Sakais of this district appear to be unacquainted with the use of hook and line; but this ignorance may be due to the fact that they do not practice navigation of any kind, either in the Batang Padang district or near the headwaters of the Telôm, though they are said to be expert raftsmen on the Jelei and Tenôm, of which the Telôm is a tributary. One fish-trap, collected near Bidor, is worthy of a brief description, as it differed somewhat from any other seen. It consisted of a funnel-shaped basket, about four inches in diameter, with a fringe of springy twigs forming the apex of the funnel. A fish would be forced by the current of the stream among these twigs and would not be able to move either forwards or backwards.

A Sakai camp is usually well supplied with household implements and utensils, but by far the greater number of these are obtained directly or indirectly from the Malays. Water is carried and stored, as among all the more primitive inhabitants of the Peninsula, in bamboos, which may measure as much as eight feet in length. The septa dividing the nodes are roughly perforated, and (at any rate in the larger specimens) a spout is formed by cutting the bamboo diagonally to its axis. Sometimes these large water-vessels are decorated with painted and incised patterns, but this is probably a sign that they have been used for ceremonial purposes. A pair were obtained near Bidor which had been used in the ceremony of purifying a woman after childbirth—a custom not improbably derived from the Malays. They were ornamented with longitudinal straight lines, zig-zags, and spots of white and pink paint, which corresponded roughly with incised lines, and were confined

in vertical bars by the removal of strips of the outer surface of the bamboo. In the fresh specimen this method of decoration was most effective, as the green of the outer surface contrasted finely with the duller tissue revealed by its removal and with the paint.

Resin torches are commonly in use among the Mai Darát, who habitually procure fire by the aid of flint and steel, or even lucifer matches. There are still young men, however, who can make it by older methods, which differ from those of Upper Perak in being more degenerate, while the skill of individuals whom we saw employing them was very small. It should be noted that they only did so to give us a demonstration, and at our request : the men of the camp near Telôm declined the trouble. The easiest way to make fire known to Batang Padang Sakais is by sawing a piece of soft wood with a sword-shaped strip of bamboo. The wood was held down on the ground by one man, while two others worked the bamboo backwards and forwards, grasping it with both hands at either end. The second method was essentially that already described with reference to the Semán, but the wood was not split and no peg was inserted, the tinder being held near the groove formed by the rattan string. The ends of the rattan were held by a man sitting on the ground, and the same man shoved against the billet of wood with his right foot, thus keeping it pressed hard against the rattan, which he drew backwards and forwards round it. This method was considered to be the most efficient, if suitable materials could be obtained ; but very strong rattan was necessary, as well as peculiarly soft wood. The third method was that of the fire-drill, a pointed stick of hard wood being rotated in a depression bored in a block of soft wood, by means of a rattan band passing round it and worked by two men. The first method was a very clumsy form of that described with reference to the Sakais of Upper Perak, but it was the only one by which those men among the Mai Darát, who undertook to demonstrate the production of fire from wood, were able actually to obtain fire in our presence.

As we have already inferred, at least two qualities of bark-cloth are made by the Mai Darát, one being produced by the Upas tree and the other, which is much coarser, from a species of *Artocarpus*, and possibly from other trees also. The inner bark is removed from these trees in large strips, which may measure as much as eighteen inches across and several feet in length. These are soaked in water for a shorter or longer period, according to the colour required and the character of the bark ; but as a rule, the soaking does not last longer than an hour or two. They are then beaten until the requisite consistency is acquired with mallets used only for this purpose. The mallets (Fig. 13) measure about ten inches in length and two in breadth, about one-

third of their length consisting of handle. Their inner surface is deeply scored by lines running both longitudinally and transversely, so as to divide it into a number of small squares.

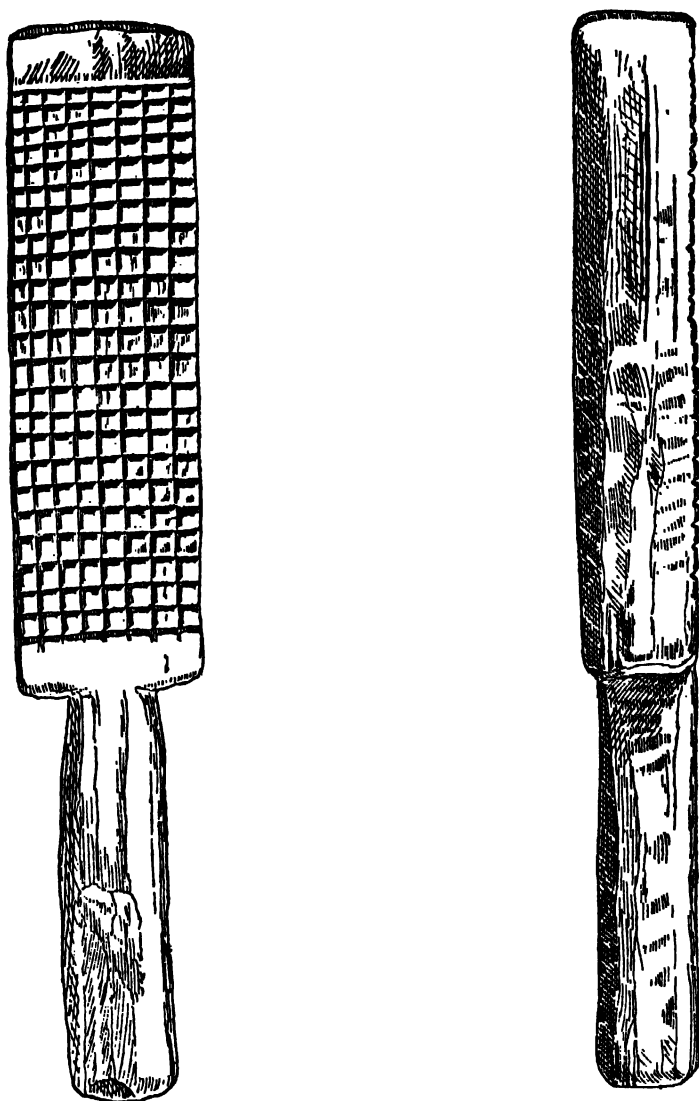


FIG. 13. Front and side views of wooden mallet used in the manufacture of bark cloth. Mai Darát ; Batang Padang, South Perak. Scale, about $\frac{1}{2}$.

Basketwork is practised with some degree of skill among the Mai Darát. The creels carried on the back resemble those of the Semán, but are generally fixed and secured by means of bands of bark-cloth instead of loops of rattan. Not infrequently also they are enclosed in an openwork casing of split rattan. Circular baskets are made from shredded *Pandanus* leaf to hold rice and other

grain, being ornamented round the edge with a thickened rim. We saw also in use among the hill people at Telôm very neat little tobacco pouches made in a similar manner, but of a finer material ; they were extremely flexible, and could be tightly closed by turning over the upper part. As many of them were decorated with needlework very similar to that seen on the pouches made by Malays, it is probable that the pattern at least was a Malay one. The fishing-traps alluded to were mostly constructed of rattan or fine twigs lashed together. *Pandanus*-leaf sleeping mats, which are extensively used in the plains, probably have a Malay origin ; and the same may be said of hen-coops, manufactured by splitting a bamboo into a number of strips at one end, and, while leaving these strips connected at the base, where the stem is still whole, interlacing them with twigs or rattan in circles, so as to form an inverted funnel.

Though the Sakais of the district under discussion have long practised agriculture on a fairly extensive scale, as is proved by the state of the jungle on the hillsides of the upper Batang Padang valley, it does not appear that they owned any agricultural implement more efficient than the digging-sticks of the Semangs until the recent growth of European influence brought them into close contact with Malays and Chinamen. They still make extensive clearings on the hills by burning down the jungle, leaving the stumps of the trees standing, and allowing the ashes to remain as manure. In these clearings they cultivate a kind of tapioca, which has run wild in the vicinity of most of their camps, a species of millet, which does not appear to be grown by the Malays of the same district, and also, of late years, Indian corn, which, however, has only become common among them quite recently. In the plains they cultivate rice of the varieties known as hill *padi*, which can be grown without irrigation ; but they have probably learnt to do this from the settled population, as the climate of the high elevations at which they prefer to live when in their wild state is unsuitable for any kind of rice growing. They do not, so far as we saw, cultivate bananas or any other fruit, though they own durian trees, probably propagated by accident, and their ownership is recognized legally. Near Gedong we procured from a Sakai camp a rice-cutter, ingeniously made from part of an old kerosene tin. It consisted of an oblong piece of the metal strengthened along one border by doubling the tin, and with a short piece of stick thrust through it at right angles to act as a handle. This implement was obviously a rough adaptation of the Malay form, which is made of wood with an iron cutting edge, and is held between the first and second fingers when in use, the third finger being employed to bring the stalks against the cutting edge. The clearings may have an area of as much as one hundred acres, and are protected from the depredations of jungle pig and other animals by roughly

interlacing branches of trees with the shrubs naturally growing round the edge. Gaps are often left in which traps are set. As may be well imagined, this system of agriculture is very destructive of the jungle, seeing that rarely more than two crops are ever raised in one clearing, which may be suddenly deserted at any moment owing to a death in the camp.

The Sakais of this district own a breed of dogs, which is probably identical with that owned by the Pô-Klô, and quite distinct from that of the pariahs common in Malay villages. The points of difference are that the muzzle is shorter in the Sakai breed, the ears more erect, the legs shorter, the tail more bushy, the body more thick set, and the colour an almost uniform tawny rufous, very similar to that of the Malay hunting dog (*Cyon sumatrensis*). The Mai Darât treat their dogs with great kindness, and when on a journey carry them; this office usually falling to the lot of the younger women. The dogs aid them greatly in hunting, and are very suspicious of strangers. They are said to be often infected with rabies. The only other domestic animal usually owned by the Sakais is the common fowl, which they have probably acquired recently, for their breed is the same as that seen in Malay villages. At the present time, the Sakais of the Batang Padang district, and even those of the mountains on the Perak-Pahang border, own large numbers of fowls, which they breed to sell to Chinese pedlars, or even bring down into the towns themselves, carrying them on their backs in open work crates made of rattan. Though they will sell their poultry alive, they refuse either to kill or to eat it themselves, looking upon all animals reared in their camp as members of their community, as they themselves told us. They deny, however, that they have the same regard for the pets of other people.

Kittens are occasionally procured from the Malays, and we have seen a little boy dressing one up like a doll. The wild pig (*Sus cristatus*) is not infrequently tamed, though it does not appear to be bred in captivity. A specimen sold to us at Telôm by a party of Sakais followed its owners like a dog, and came up to them when they called out '*jut-jera-jut*,' a cry that appeared to have no definite meaning. The young of the monkey, *Macacus nemestrinus*, is also captured and made into a pet, being almost an object of barter between camps lying many miles distant from one another. We have known a case in which a specimen, which its owners refused to sell us, was taken all the way from the plains of the Batang Padang valley up into the central range, where monkeys hardly exist, having possibly been exterminated by the relatively large Sakai population.

The houses of the Mai Darât closely resemble those built by the Malays in their own hill clearings, but there is no reason to believe that the Sakais

have recently adopted the pattern from their more civilized neighbours, for those camps which we saw in the mountains differed in no material respect from those built in the close vicinity of settled districts. So far as we saw, the houses were always raised on posts, sometimes to the height of ten or eleven feet, where wild beasts are feared, and sometimes not more than as many inches. The walls are constructed of bamboos, split along one side and then opened out, the flat strips thus obtained being interlaced to form a rude kind of basketwork. Often these walls are only necessary at the two ends of the house, as the eaves of the roof, which is made of palm-thatch, reach to the floor on either side. The floor itself is made of narrow strips of bamboo or sticks, laid parallel to one another, and secured with lashings of rattan or of the stems of creepers. There is no division into rooms inside, though that part of the floor furthest from the entrance is often raised to form a sleeping place. The fire is close to the door, being lighted on a square of sand or earth enclosed by four bamboos. There is no chimney. The door consists of a slab of the same material as that of the walls, and is secured by a stick which can be thrust through corresponding holes in the two door-posts. We never saw more than four houses in one clearing, but clearings in cultivation were sometimes observed at a distance from the camp, and in such cases there was a small house in them, which appeared to be only used on occasion. When on the march the Mai Darát construct shelters like those of the Semangs, but apparently without a sleeping platform.

The grave of a Mai Darát is elaborate, a chamber having been constructed, in several interments investigated, above the level at which the corpse was buried, but below the surface. The roof of this chamber was made either of palm-thatch or of earth beaten hard, apparently over a wooden framework, which had decayed; in it were deposited all the goods owned by the deceased, including clothes, household implements, knives, ornaments, and even coins. The graves that we actually saw happened to be those of women, except in one case, where a Malay model had been followed. In the purely native interments an iron cooking-pot and some porcelain vessels—both, of course, derived from Chinamen or Malays—were placed on the surface of the mound raised over the sepulchral chamber, and a small tree had been planted at the head and foot. We were shown a photograph of a male interment, in the case of which a small shelter had been constructed over the grave and a blowgun left upon it. This photograph was in the possession of Mr. G. B. CERRUTI, at that time Superintendent of Sakais in Southern Perak. The body was fully clothed in all the cases that we investigated ourselves, and in some a few copper coins had been placed in the belt. It should be

noted that the graves described were all in the plains, and we do not pretend to say that they were identical with those of the Sakais of the neighbouring mountains, though the men whom we questioned at Telôm told us that they buried all a person's goods with him. The actual depth of the grave varies considerably, and we were told that people of importance are buried deeper than those of less account, as, when a chief or one of his family dies, all the camp and all his relatives assemble to dig the grave. In cases of murder or other violent death it is probable, from what we heard, that the body is allowed to lie where it falls.

The very fact that goods are buried with a dead man or placed upon his grave shows that the Mai Darât believe in some form of existence after death, and they told us that these goods were for the use of the deceased. Whenever a death occurs in a clearing, that clearing is deserted, even though the crops are still growing, as soon as the corpse has been buried, though the grave, as the Sakais at Telôm told us, may be in the jungle. Several of those we saw ourselves in the plains were in the close vicinity of the ruins of Sakai houses, if they had not been dug directly under them. After the clearing has been deserted, the grave is visited at intervals by the relatives, who may place offerings of food upon it; at Telôm we were told by the Sakais that they always provided the dead man with five days' food, but that they never passed near a grave if they could help it, because they feared the ghost.

Besides the ghosts of dead men they also stand in awe of certain other spirits, whose proper home is the jungle, and whom they call *nyani*. When a person is sick, the head-man of the camp, who is also its medicine-man, summons these spirits by incantations; the other members of the community striking a fallen tree-trunk with bamboos, held vertically. The spirits are then induced to leave the sick person and take up their abode in a 'baby' (*anak*), hung up outside the house. The 'baby' consists of a bunch of grass or shredded banana leaves suspended in a bell-shaped structure composed of similar materials and decorated with the inflorescence of a palm. In a specimen (Plate XIII, figs. 3, 4) we obtained near Bidor two small sticks ornamented with shavings, and comparable to the peeled wands used in Bornean, Japanese, and Australian ceremonies, were fixed near the top. They were about six inches long, and the shavings, which were in three series, were short. In this camp the bell-shaped structure was called *Balei* or *Sambong Nyani*; both *balei* and *sambong* being common Malay words, though *Nyani* is not. The shaved sticks were called *Chin-norâb*. This *Balei* differed very much from any *Balei Hantu*, or 'Audience hall of the Spirits,' that we saw among the Malays.

There is no more a true tribal organization among the Mai Darât than

there is among the Semangs ; the former being also broken up into small camps, which do not, however, owe allegiance to any Malay master. In two cases head-men told us that they had been appointed by a European.

A man may not marry a girl belonging to his own camp, but, in some cases, it is probable that he becomes, temporarily at least, a member of his wife's camp. Monogamy appears to be the almost universal rule, though a head-man may have two or even three wives, and the Sakais told us that they saw no objections, other than economic, to polygamy. The women are kindly treated, and we noticed that on a journey they usually walked first, and that their burdens were at any rate no heavier than those of the men. Children are carried either in baskets on their mother's back, or slung across the hip in Malay fashion. The families are small. Fathers are often called after their children, as Pa Gedong (*i.e.*, Gedong's father). Married men take the title *Ba* (uncle).

The Sakais have the reputation of being both timid and inoffensive, but we found many of the wilder folk at Telôm almost truculent in their demeanour. The Malays admit that the cunning and dishonesty the Mai Darât now display is due to contact with themselves. Like most primitive people Sakais are very improvident and also very hospitable. They are jealous of the honour of their women, as already noted, and instances have occurred of Malays having been wounded, if not killed, on this account.

The Government of the Federated Malay States recognizes the 'aborigines' as lords of the soil, in so far that it does not force them to take out licences for collecting jungle produce or mining tin, but the same duty is levied on both vegetable and mineral produce when it is bought from the Sakais or Semangs as when it is collected by men of any other race. In South Perak the Perak Government recently appointed a 'Superintendent of Sakais,' whose duties, however, were largely subservient to those of the Forestry Department, of which he ranked as an official. The first superintendent appointed was an Italian gentleman, of the name of CERRUTI, who had gained considerable influence over the Sakais of the district in a private capacity, and had also had much experience of primitive races in the Malay Archipelago. Through the kindness of Mr. J. P. RODGER, C.M.G., the British Resident of Perak, Mr. CERRUTI was instructed to accompany us during the greater part of our stay in South Perak, and we are indebted to him not only for many valuable specimens, but also for the pains he took in connexion with our journey to Telôm. We have already hinted that the relations between the Malays and the Sakais are often strained, and, indeed, until recently slave-raids among the wild tribes were considered quite legitimate by the Mahomedan population of Perak. It is possible that the practice is, even now, not

altogether extinct, as an Achinese settled at Bidor offered to steal us a live Sakai, if we would give him fifty dollars. Chinamen, on the other hand, recognize that it is more profitable to be on good terms with the Sakais, and, therefore, treat them with some appearance of generosity, obtaining in return good bargains in the way of poultry, jungle produce, and tin. In short, it may be said that the Malay is the only person with whom he is likely to come in contact that the Sakai is really afraid of under British protection.

It is quite impossible to define the geographical limits of the tribe we have called Mai Darát with any accuracy. On the western side they occupy the upper parts of the valleys of the Batang Padang, Sungkei, Slim, and, perhaps, the Bernam Rivers, while they certainly extend eastwards, over the range, to the Telôm valley, down which they spread in all probability to a lower level than on the western side, as the country is very little occupied by settled races. It is probable, indeed almost certain, that each of the numerous divisions into which the tribe is broken up has its own hunting-grounds; but how far these divisions are identical with the various camps we cannot say. It seems likely that the Mai Darát are the same tribe as that described by previous writers as Sennoi or Sinnoi, and that *sennoi* is a word equivalent to *bami*, meaning 'men.' It is much to be regretted that the authorities on the wild tribes of the Malay Peninsula have, in many cases, been most negligent in stating the exact localities with which they deal, and this appears to be one of the principal causes of the extreme confusion in which questions connected with these tribes are now involved.

The Orang Bukit of Selangor.

About six miles out of Kuala Lumpor, the capital of the Federated Malay States and of Selangor, we paid two visits to a Sakai community of some six households, at a place called Labuansara. The people told us that they called themselves Orang Bukit, but this is only a Malay name, meaning 'hill men.'

In physical character they bore a general resemblance to the Mai Darát but several individuals showed a greater approximation to the Malay type than any Sakai whom we saw in Perak. Indeed, a few of the men and women could only be distinguished from Malays by the brightness of their eyes, and by the gait so characteristic of all the jungle tribes. The hair of the men was cut so short that it was difficult to diagnose its true character; that of the women was always slightly wavy, but never sufficiently removed from straight to be called curly. It was so plastered with oil that it was probably made to appear even straighter than it naturally was, and in one case we found that it was largely supplemented with the combings from a Chinaman's pigtail, which, of course,

were lank and absolutely straight. We have noted the hair of both sexes as straight in several instances, but in no case was it actually lank. The colour of the skin of the body varied between red and yellow, the most prevalent shade being a reddish olive, practically indistinguishable from the complexion of the Malays of the neighbourhood. When we discovered that the woman's hair was not altogether natural, a dusky tinge spread over her face. The mean stature of nine adult males was 1,560 mm. ; it would have been considerably lower but for the inclusion of one man who was exceptionally tall, even for a Malay, and who had other non-Sakai characters. The mean stature of four women was 1,397 mm. The noses and faces were a little narrower than those of the Perak Sakais, but the shape of the face was much the same. The eyes were invariably black, and the epicanthus was absent, or very slightly developed, in all but two cases, in which it did not cover more than half the caruncle.

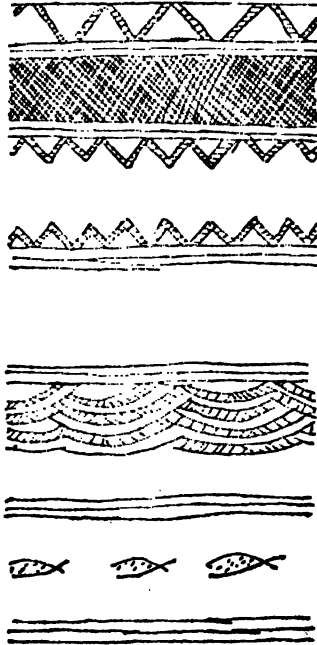


FIG. 14. Detail of Ornementation on Blowgun. Orang Bukit ; Selangor. Scale, $\frac{1}{4}$.
The design in the bottom row represents scorpions (?) or cockroaches, and that on the top a snake.

The Orang Bukit were well provided with blowguns, which resembled those of South Perak in structure, but differed from them in ornamentation and in the shape of the mouthpieces, which were decidedly conical, instead of being annular or bowl-shaped. The patterns incised on the surface of the bamboo included geometrical designs (Fig. 14), but were characterized by the presence of forms representing snakes and arthropods, whether scorpions or cockroaches

we could not ascertain with certainty. The quivers that accompanied the blow-guns were smaller than the majority of those obtained in Perak, and had covers which were either carved out of wood or plaited with rattan, of a conical or pyramidal form. The darts differed from those collected elsewhere in having the cones at their bases made of pith. We also saw in the houses thorny wood cudgels closely resembling those of the Hami, and were told they were used for killing rats.

We found the Sakais of Selangor well acquainted with the use of *tuba*, a poisonous creeper, the roots and stems of which are used in many parts of the Peninsula to stupify fish. A man showed us some of the roots in this camp, remarking '*ipob* for monkeys, *tuba* for fish.'

Though the Orang Bukit affect the Malay costume for the most part, they are able to make bark-cloth, as they demonstrated to us. The mallets they used in so doing differed from the specimens procured in Perak, in that the lines cut on the flat surface only ran transversely, and did not extend far from the edges, being rather of the nature of notches made at each side.

The Sakai houses in this part of Selangor are better supplied with utensils and implements, which appear to be of true Sakai origin, than those of any jungle tribe visited in Perak, notwithstanding the fact that the Orang Bukit are, in many respects, more intimate with the Malays than the Mai Darát. Many of their water vessels, for instance, though of bamboo, have flat wooden covers attached to them in a manner never seen among the Malays, and baskets are made in quite a variety of forms. Some of the creels, to be carried on the back, resembled those in use throughout the jungle of Perak, but others were rendered more elaborate by having wooden bottoms attached to them, and by being strengthened with wooden or rattan rims and ribs. Creels of this type are quite unfamiliar to us among the Malays. Very characteristic of the Orang Bukit also were certain stiff, pouch-shaped baskets of rattan for the reception of drugs. They were suspended by thrusting the bone of a monkey, attached to them by a string, into the basket-work of bamboo that formed the walls of the houses.

The clearing in which the camp under discussion was built was quite equal to any made by the Malays of the country, and contained both banana trees, pineapple plants, and tapioca; while the Sakais told us they had large fields of hill *padi* a short distance away. Their dogs, of which they owned a considerable number, were the ordinary Malay pariahs. We were surprised to see an Argus Pheasant consorting with their poultry quite domesticated; several monkeys and a young jungle pig were also noticed in the process of taming.

The houses differed from any that we had previously seen, and were in some respects of a higher type than those of the Malays in the wilder parts of the Peninsula. The interesting feature in them was that in several instances a part of the one room of which each consisted was divided into several cubicles by walls that did not reach up to the roof, and that only extended outwards to the centre of the floor. The kitchen consisted of a fireplace extending under the eaves, just inside the door, and surrounded with a number of hanging shelves for the reception of cooking utensils, large spoons of cocoanut shell, turmeric graters, made from the rough midrib of a palm leaf, and the like.

On being requested to make us specimens of such toys and ornaments as they commonly used, several of the men set to work to construct the trappings necessary for a 'spirit-play' (*main bantu*). These consisted of a number of ornaments plaited from strips of palm leaf, and representing birds, fruit, snakes, and other objects, the most interesting of which were little square canopies, with ribbons twisted into rings at the extremities, depending from their corners. All these were to be hung up in the house when the medicine-man called down spirits, who would be deceived by the birds and fruit into believing that they were in a pleasure garden, while they would rest under the canopies, which appeared to be the same thing as the *balei nyani* described above, only in a simpler form, and without the 'baby.' Models of birds, fishes, and fruit of exactly the same character are used in Malay ceremonies of a magical or religious nature, as will be afterwards described.

The Orang Bukit round Kuala Lumpur regard themselves as subject to the Penghulu or Malay headman of that town. It is not unknown in this state, even at the present day, for Malays to take to the woods and become members of a Sakai tribe.

This brings to a conclusion the purely descriptive part of our account of the customs and modes of life of the Semang and Sakai tribes that we visited ourselves; we give a more detailed description of their physical characters in a subsequent paper. We have made no attempt to enter on the question of linguistics, considering it better to hand over such vocabularies as we were able to make to an investigator already working on the subject, and in possession of far more extensive material than we could gather in the time at our disposal.

EXPLANATION OF PLATES XI, XII, XIII

PLATE XI

- 1, 2, 3, 8, 9. Blowguns.
1. Orang Bukit ; Labuansara, Selangor (p. 49).
- 2, 3. Mai Darát ; Batang Padang, South Perak (p. 38).
8. Semán ; Grit, Upper Perak (p. 13).
9. Hami ; Mabek Jalor (p. 6).
7. Mid Rib of Palm Leaf, used in manufacture of Blowguns. Mai Darát ; Telom, South Perak (p. 38).
5. Instrument for polishing bore of Blowgun. Same locality (p. 38).
- 4, 6. Front and back views of Bamboo Spears. Same locality (p. 37).

PLATE XII

FIG. A. Dart Quivers. Sakai.

- 1, 2, 3, 4. Pô-Klô ; Upper Perak (pp. 24, 26).
- 5, 7. Mai Darát ; Batang Padang, South Perak (p. 39).
6. Orang Bukit ; Selangor (p. 50).

FIG. B. Bark Cloth Fillets. Mai Darát ; Batang Padang, South Perak (p. 33).

PLATE XIII

- FIG. 1. A. Dart Quivers. Pô-Klô ; Upper Perak (pp. 24, 26)
- B. „ Semán ; Upper Perak (p. 14)

FIG. 2. Rattan Creel. Mai Darát ; Telom, South Perak (pp. 42, 43).

FIGS. 3, 4. 'Audience Hall of the Spirits.' Mai Darát ; Paku, Batang Padang, South Perak (p. 46).
(One of the shaved sticks inserted at the top has been lost).



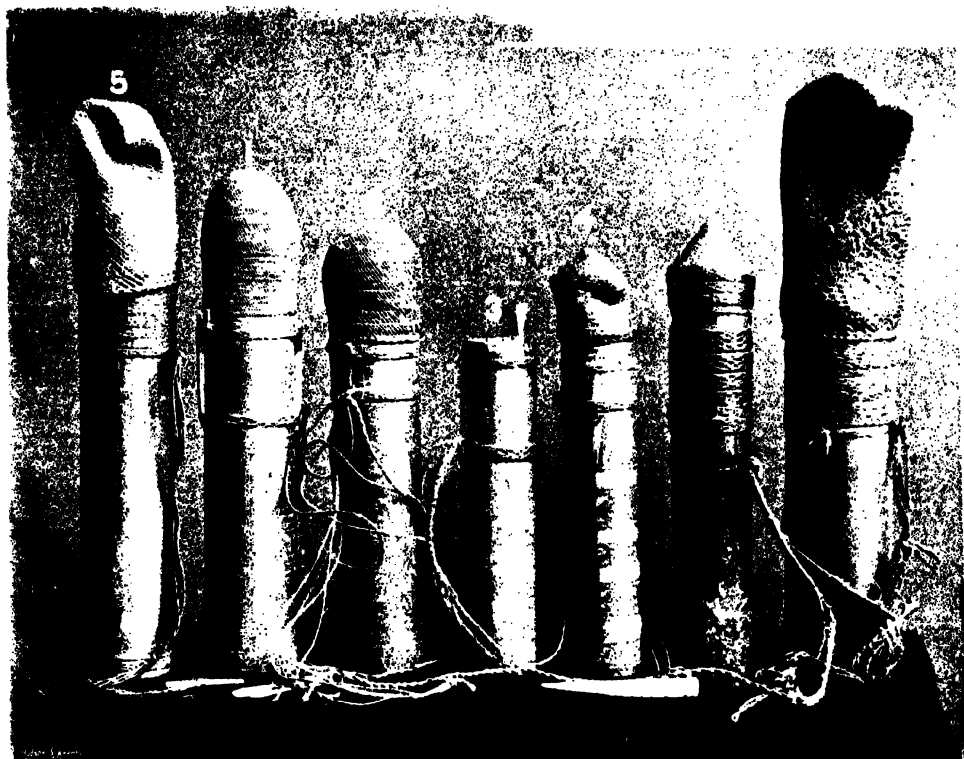
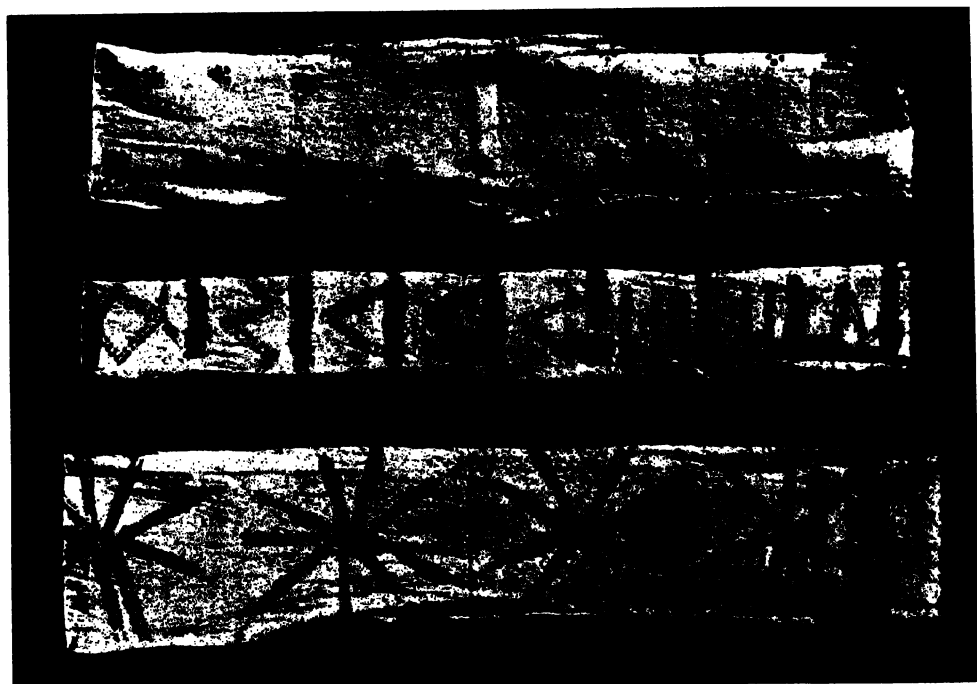


Fig. 1. SAKAI DART QUIVERS.—PERAK AND SELANGOR
(For explanation, see p. 52.)



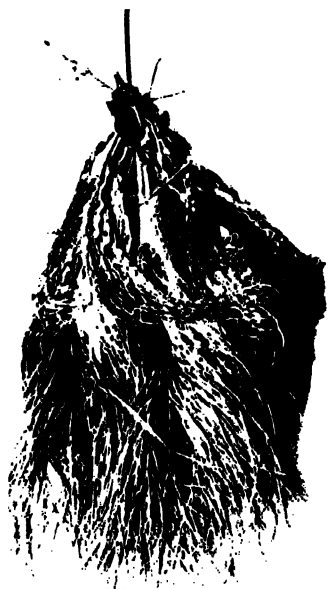


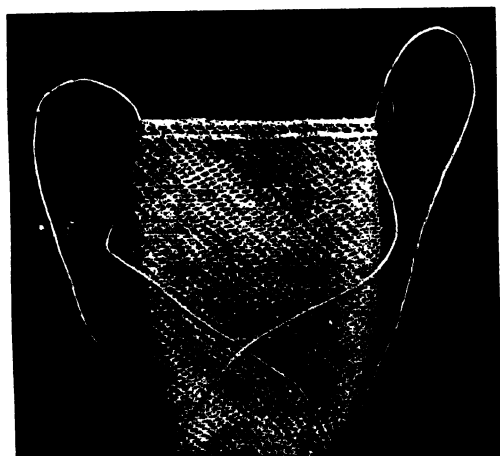
Fig. 3.



Fig. 4.



Fig. 5.



PART II. THE COAST PEOPLE OF TRANG

N. A.

THE coast of the Siamese State of Trang and the small islands lying off it are occupied by two tribes, which appear to belong to distinct races; but the Siamese themselves, on the West as on the East coast of the Peninsula, are not a coast people. In dealing with these two tribes a difficulty in nomenclature at once arises, for they both call themselves *Orang Laut*, or Sea Folk, being distinguished by the epithets, *Islam* ('Mahommedan') and *Kappir* ('Kaffir' or 'Infidel'). Now, the name *Orang Laut* has already been applied by various authors to two distinct tribes, one of which may be identical with, or nearly related to, the Infidel Sea Folk of Trang; though the other, at most, has no more than a remote connexion with the Mahommedan Sea Folk of the same state. Leaving the Trang people out of the question for the moment, we find that at one time the coasts of the south of Malay Peninsula were infested by hordes of purely nomadic *Orang Laut*, who were most probably of Malay stock. Their boats—for they made no dwellings on land—were particularly numerous off the State of Johore and the Island of Singapore, and they were often called *Orang Selatar*.¹ Colonies of this tribe, now settled in houses and probably much mixed with other races, still exist, notably on Pulau Brani, opposite the docks at Singapore. Here we have ourselves visited them. They are a comparatively tall people, of dark complexion, and usually with straight hair, which, in the case of the boys, who dive for coppers for the amusement of passengers on board the steamers, is sometimes bleached almost to tow colour, though its natural tint is a rusty black. The *Orang Laut* belonging to the other tribe hitherto described are Sakais, and live on the coast of Selangor, not, however, being seafarers, but merely living near the sea. A family of this tribe came up to the State Museum at Kuala Lumpur while we were there. So far as we could judge, by merely looking at them, they were racially identical with the Orang Bukit of the same state.

To return to the coast people of Trang, I have thought it best to retain the name *Orang Laut Kappir* for the non-Mahommedan tribe, having pointed out that all *Orang Laut* do not belong to the same race, and to call the self-styled '*Orang Laut Islam*' Samsams. They themselves agree that the dialect

1. Or, by Portuguese writers, *Calleses*; both forms are derived from the Malay *Selat*, a 'strait'.

they speak is the *babasa Samsam* or 'Samsam language,' and I found in several instances that the people of one village called those of a neighbouring village 'Orang Samsam,' though the latter considered the title an insult; the fact being that Samsam means 'half-bred Siamese,' and that no Malay or Siamese is willing to admit that his ancestry is mixed. The justness of its application, however, to these Mahommedan Sea Folk of Trang is indubitable; there is no physical difference, so far as I can judge, between them and the 'Malay' or 'Samsam' population of the north of Perak and the adjacent parts of the Siamese Malay States, and though it seems probable that a wedge of a purer Malay, or Arabo-Malay, element may have established itself in the district surrounding Alor Stah, the capital of Kedah, yet the people, both to the south and to the north of the region so occupied, are known to be very largely of mixed origin.

Curiously enough, the word does not appear to be known in those states on the East Coast the majority of whose population consists of a mixture of Malays and Siamese; but in Perak and Kedah it has the sense indicated, both in Malay and in European circles. In the former it is compared to *Serani* ('Nazarene,' i.e., Eurasian), which means of 'mixed European and Oriental ancestry.'

(A). SAMSAMs (Plate XIV)

In May last I spent a week in the villages of this race on the coast and islands of Trang. Much of my time was occupied in attempts, often frustrated by bad weather and contrary winds, to reach the islands occupied by the Orang Laut Kappir.

The Samsams are considerably taller than any race we have yet described; the mean height of fifteen adult males being above 1,600 mm. Though rather slightly built, they are fairly muscular, and they show no indication of a disproportionate development of the upper part of the body. Their complexions are clear, varying in tint from dark olive to pale yellow, but generally having a yellowish tinge. In ten out of fifteen instances the eyes were reddish-brown, the remaining five individuals having them black. The hair was in all individuals seen, who numbered at least two hundred, black, without a reddish tinge, straight, coarse, and lank. It was rarely even moderately abundant either on face or body. The epicanthus was sufficiently developed in one case to cover a half of the caruncle; in five it was vestigial, while in nine it was absent. The face was short and broad, rather flat, and pointed towards the chin. The nose was, in most cases, straight, but with negroid alae; prognathism was usually absent, never more than slight.

The gait of the Samsams is not that of jungle folk, offering no peculiarity. Their movements are inclined to be deliberate and stately; but the children are noisy and quarrelsome.

The majority of the men wear loose trousers, generally of a dark blue material; but a coloured waist-cloth is often worn in addition. The upper part of the body is frequently left uncovered, but a thin, tight-fitting vest of European manufacture is worn, for the sake of comfort, when it can be procured. The use of turban handkerchiefs is not universal, but wreaths and other head-dresses of flowers rarely take their place. The women wear the Malay *sarong*, reaching from the waist to the ankles. As a rule, they cover the breasts with a cloth, but the long jackets worn in Perak are not common.

The most characteristic weapon of the Samsams of Trang is the pellet bow (Plate XIV, fig. 2), which has reached a higher development among them than in any other tribe we saw in the Malay Peninsula. The bows are formed of strips of bamboo or palm-wood, about one or one-and-a-half inches wide and four feet in length. A thumb-guard formed of palm-wood is lashed to the inner surface of the bow by means of split rattan, taking the form of a crescent or of a highly conventionalized bird, in the specimens collected either a 'woodpecker' (*burong pelatok*) or 'turtle dove' (*tekukur*). The different birds are distinguished from one another by the shape and positions of their heads, and their tails are the only part really effective as a guard: in one specimen only the tail is represented. The bow-string consists of a piece of rattan, which is split in the centre for several inches, so as to admit of a shallow pocket, plaited out of strips of the same material, being inserted between the two strands. In this, the pellet, a small ball of sun-dried clay, is placed before being shot out. The string is fastened to the bow at each end by means of a loop of twisted vegetable substance, which fits into a notch in the bamboo or palm-wood. The pellet bows are usually hung up in the houses just above the fire, so that they become smoked and black. They are said to be really formidable weapons, though they have the appearance of being little more than toys.

The Samsams do very little iron-work, but obtain the blades of their jungle-knives, daggers, and *kris* from Patani and the other states on the East Coast of the Peninsula. They outrage all Malay convention in the way which they fit the blades to the handles and provide them with sheaths, so that it is often possible to find among them a dagger with a blade of one recognized type, a handle of another, and a sheath of a third. The tail-stings of rays, which are reputed to be very poisonous, are also used as dagger blades (Plate XIV, fig. 1, on right), though I have not seen them so employed in other parts of the Peninsula. Occasionally even *kris* handles are fitted with these

natural blades, which are sharply pointed, serrated along the edges, and very brittle, so that they cause dangerous wounds. Apparently they are not used among the Samsams for spear heads.

The Samsams of Trang are expert fishermen, their methods and implements differing considerably from those of the Malays of Patani. I shall only attempt to describe a few that particularly struck me. Much of the fishing is done by line, with iron or brass hooks, and an ingenious piece of apparatus is used for measuring out the pieces of cord to be used as snoods for hooks of different kinds, and for tightening the knots by which the lines are fastened together. It consists of a flat board about six feet long and a foot wide, in which two or more upright stakes are fastened, the distance between them being a gauge of the length of the snoods. Some little way in front of them a solid wooden cylinder is supported between two upright pieces of wood, inserted near the sides of the board. The cylinder can be rotated by means of a stick passed diagonally through it, and the distance between its centre and the stakes also acts as a gauge of length. When two pieces of line have been tied together, one end of the double piece is hitched over the stick running through the cylinder, while the other is twisted successively round the stakes; the cylinder is then made to rotate until the line is drawn taut, so that the knot is tightened. My Patani 'boy,' who accompanied me to Trang, told me that he had seen a similar piece of apparatus in use among Chinamen at Patani; but there are no Chinese fishermen in that state. Another object used in fishing on the coast of Trang, that I had not seen employed elsewhere, was a small rectangular screen made of *Pandanus* leaf, with a plain wooden handle. This was carried in the right hand, along with a resin torch, while shrimping along the shore at night; the net being worked with the left hand. Its object was said to be to conceal the shrimper from the shrimps and small fish; but more probably it acted as a reflector for the light of the torch, and prevented the smoke from getting into the shrimper's eyes.

Fish spears with single prongs, three-pronged tridents, and harpoons with heads that are detachable from the bamboo shafts, to which they are fastened by long strings, are all in common use, the harpoons being chiefly employed for hunting the Dugong, which, however, is not very common. Though this animal is called a fish, being known by its Malay name, *Ikan Duyong*, yet it is regarded as an animal by the Samsams, in so far that they, like the Malays of Patani, will not eat its flesh unless its throat be cut in the orthodox fashion. Its bones are much valued as charms against fever, often being made into bracelets; while the tears that it is said to shed when captured, are believed to be a most potent love-charm.

Oysters, among other species a pearl-bearing form,¹ are an important item, fresh or dried, in the food of the Trang Samsams. They are collected from the sand at low tide, chiefly by women and children, and are opened by means of a wedge-shaped piece of iron that is driven through a wooden handle and secured in position by bending back its base. The animals are immediately scooped from the shells, boiled in water with a little salt, and, if not consumed at once, spread out in the sun on *Pandanus*-leaf mats or bamboo winnowing trays. The shells form large heaps behind the houses, being not worth the trouble of removing. Occasionally they are burnt to form lime, which is consumed with betel; but this is not often done, as there is plenty of limestone in the district. The pearls are only sought for incidentally, and are small and badly coloured.

The Holothurians, known as *trepang*, are also obtained in considerable numbers on some of the islands, being speared with pointed sticks as they lie on the sand in shallow water. This method is adopted, though it would be just as easy to pick them up like the oysters, in order to make them eviscerate themselves. They are buried in the ground for a night, the outer skin is then rubbed off, and they are dried slowly over wood fires. The *trepang* are not eaten by the Samsams themselves, but are sold to Chinese traders, who occupy themselves in collecting mangrove bark along the coast.

Bivalve molluscs of several species, Brachiopods, or lantern shells, and Sipunculid² worms, are obtained in considerable numbers by the women and children, who dig them out, partly with their hands and partly with pointed sticks, from the sand at low tide. The molluscs and Brachiopods are eaten fresh, but the worms are cleaned and hung up on racks to dry; when prepared they have much the appearance of fine isinglass, they are generally made into soup.

Edible birds' nests are gathered in the caves on several of the islands off the coast of Trang, but the majority of the Samsams are not allowed to remain on these islands during the nesting season. The Siamese Government claims the right to farm out the nesting caves; but in popular estimation it appertains to the Sultan of Kedah, and some of the farmers pay dues to Malays who claim to be His Highness's agents, without the knowledge of the Siamese authorities, who rarely trouble to visit the remoter islands. It is remarkable that on the Trang coast the nest farmers are sometimes Siamese, not invariably Chinamen as on the islands of the East Coast and the Inland Sea (Taleh Sap). The actual collectors are mostly, if not entirely, Samsams.

1. Apparently *Margaritifera vulgaris*, not, strictly speaking, an oyster. Professor Herdman has kindly examined a shell.

2. Probably *Phymosoma japonicum*. This species is eaten by the Selungs (Anderson, *The Selungs of the Mergui Archipelago*, p. 22. London, 1890).

Before describing the houses of the Trang Samsams, it is necessary to explain why they call themselves 'Sea Folk'—a name which is not applicable to all Samsams, many of whom, in Perak and Kedah, live in the interior. A few Samsam villages in Trang, such as Ban Pra Muang, at the mouth of the Trang River, are built practically on the coast ; but the majority lie some little distance up small rivers, which reach the sea through a tangled system of winding creeks and mangrove swamps. These villages are surrounded with irrigated rice-fields, fruit trees, and groves of palms. The inhabitants spend a part of each year engaged in agriculture, but the younger people of both sexes migrate annually to the coast and islands, leaving the village in charge of the old folk. Here they stay for some months, fishing and gathering oysters and *trepang*. The houses in their villages are much like those of Malays and Siamese in other parts of the Peninsula ; they are raised on posts to the height of from six to ten feet, their walls are of rough bamboo basketwork or slabs of bark, and their roofs of palm-leaf thatch. As a rule, they are divided internally into (1) a narrow passage, into which the door opens, and which contains the kitchen fireplace—a wooden box filled with sand and provided with a number of stones or earthenware substitutes on which to rest the cooking-pots ; and (2) a couple of chambers, the floor of which is raised a few inches above that of the passage. The inner of the two chambers is often completely walled in, and has a door giving on the kitchen ; but the outer one is not divided from the passage except by the raising of the floor. The villages may reach a considerable size, consisting of forty or fifty houses. The dwellings used during the annual migration to the coast are far less elaborate ; they are not raised from the ground more than a couple of feet, their walls and roofs, when they can be distinguished from one another, are both formed of palm-leaf thatch, and there are no interior partitions. In some cases there is no room for a fireplace inside, and there are no doors ; no food can be cooked while it is raining, and the houses give very little protection from rough weather.

The boats used by the Samsams of Trang are of no great size, the majority of them being either simple dug-out canoes or hollowed tree trunks, the sides of which have been slightly raised by a superstructure consisting of a number of the slender stems of a small palm fastened together, and to the trunk, by means of flat strips of bamboo, on which they are transfixed, being further secured by lashings of split rattan. The superstructures are fairly watertight, so closely are they fastened together, but they do not last for more than one season.

Their pottery and brasswork, and the greater part of their cloth, are obtained by the Trang Samsams from Penang, and they display no decorative

talent of their own. They manufacture spoons by lashing limpet shells to wooden handles with great neatness, and sometimes carve out wooden rice-stirrers (Plate XIV, fig. 1) in the shape of paddles. Fire is almost always produced by lucifer matches or flint and steel procured from Penang, but occasionally a horn fire-syringe is still seen in use. Musical instruments are generally obtained from Kedah, the Malays of which have a reputation throughout the north-west of the Peninsula as musicians, actors, workers of shadow-plays, and the like.

The most artistic indigenous productions are tobacco and betel pouches, made of delicate strips of bleached *Pandanus* leaf or grass plaited into bags, with a comparatively small oval aperture at the top. These have no cover; they are extremely flexible, large enough to contain quite half-a-pound of tobacco, and finished with the utmost neatness. As a rule, there are several in a set, one fitting inside another, the outermost being the finest. The strips out of which they are made are shredded with an instrument resembling that used by the Semán and other tribes, but having the metal points set closer together than is usually the case among the Malays or jungle folk.

The children make use of sharp pieces of mussel shell, not fitted into a handle, in cutting out the leaf figures with which they are fond of playing. A top, or rather teetotum, obtained from them differed from any specimen seen elsewhere in the Peninsula; but it will be described in a subsequent paper on the toys in our ethnographical collections.

The Samsams themselves assured me that they always buried their dead in the Mahommedan fashion, but I saw no graveyards in the vicinity of their villages, and Mr. A. STEFFEN tells me that they commonly practice 'tree-burial,' and that he has himself seen corpses suspended between trees in the neighbourhood of their houses. Mahommedanism sits very lightly upon the Samsams, and I have it on good authority that it is not uncommon for a youth, who has been circumcised and so 'entered Islam,' to become a Buddhist ascetic if any misfortune befalls himself or his family, without renouncing his former religion. This change is not so peculiar as it seems when one understands that the Samsams, like the Malays and many of the Siamese of the eastern Siamese-Malay States, believe Buddha Gautama and Moses to have been the same person. Thus they regard the status of the Siamese as identical with that of the Jews, whose dispensation—that of the *Nabi Mûsa* or Prophet Moses—was superseded by the dispensation of the *Nabi Isa* or Prophet Jesus, to give way in its turn to the *Agama Islam* or Mahommedan religion. Infidels who have a 'writing' (*surat*), that is to say, the Christians, Siamese, or Hebrews, and even the Chinese, are looked upon as being in a

very much superior position to infidels, like the Orang Laut Kappir and the Semangs, who have no scriptures. Though Trang was once the seat of a Malay sultanate, it is very doubtful how long the present inhabitants of the coast have been Mahommedans. I was told on Pulau Telibun, which lies just off the mouth of the Trang River, that the 'Malays' of that island only entered Islam forty years ago, and when I questioned them, they said that it was quite true, adding that until that date they were 'infidels like the Siamese' (*orang kappir sarupa Orang Siam*). This does not necessarily mean, however, that they were Buddhists, for possibly they were pure pagans, like the Orang Laut Kappir.

Like all the races of the Malay Peninsula, the Samsams place implicit faith in charms and amulets of many kinds, especially—in which respect they resemble the Burmese and Siamese rather than the Malays—in little plates of copper or lead engraved with magic squares and other mystical figures, and rolled up round pieces of string which are worn as necklaces; and in cloths on which similar but more elaborate figures are painted, together with written charms. These cloths are worn as turbans when danger threatens, being regarded, as also the metal plates, of sufficient potency to render their wearers invulnerable. Many of them claim to have been made in the State of Patalung, whose medicine-men, for geographical reasons into which I cannot enter at present, are reputed the most powerful in the Malay Peninsula. Other magical usages will be noted in a subsequent paper on religion and magic.

The *babasa Samsam* or *Susam*, commonly spoken by the Trang Samsams, is a dialect of Siamese, liberally interlarded with Malay words and phrases. Siamese is, of course, a toned language, but no attempt is made to intone these Malay additions, so that they strike the ear at once and appear, perhaps, to be a more important element in the Samsam dialect than is really the case. When the Trang people speak Malay, as they often do, their dialect is that of Penang or Kedah, quite different from the dialect spoken by the Orang Laut Kappir.

In the State of Trang the Samsams are confined to the coast and to the banks of the rivers described above. They claim to occupy the coast as far north as Victoria Point, in Tenasserim, but this is possibly an exaggeration of their range. Their southern limit in Perak is practically identical with that of the Semangs, for, though the Siamese have made many raids further south in the Peninsula, they do not appear to have left traces of their presence in the racial characters of the people.

1. Like the Siamese, they cannot pronounce a true j or dj, so that they say *rays* instead of *raja*, *hiyang* (*Cervulus*) instead of *hijang*.

The interior of Trang is chiefly occupied by Siamese, though certain districts are given over to Chinese pepper-planters ; but the Siamese of this state differ considerably from those of the opposite side of the Peninsula. In Trang their hair is almost invariably straight, whereas in the adjacent State of Patalung it is rarely quite straight, and not infrequently curly ; their skin has a distinct yellowish tinge, while that of the Patalung Siamese is just as distinctly reddish ; and I am inclined to believe, though it is impossible to dogmatize on this point without closer examination than I was able to make, that the eyes of the Trang Siamese are more Mongoloid in shape than those of the people of Patalung.

The 'Caucasian' features of the faces of figures stamped on ancient clay tablets, recently found in caves, points to there having at one time been an Indian element in the population of Trang ; but it is possible, though not probable, that these tablets, or the stamps with which they were made, were brought from India.¹ It can hardly be doubted that the religious caste among the Siamese, who are called Brahmin or *Pram*, and who claim descent from Indian immigrants, once existed in Trang, as they still do in Patalung, and individuals of this caste must still occasionally cross from the latter into the former state, indeed, one accompanied me for the greater part of my journey from Lampan to Kantang ; but it is probable that the Indian blood in the *Pram* has been quite eliminated by constant intermarriage with Siamese, carried on for centuries, even supposing that their ancestral claims be just. Kantang, the modern capital of Trang, which, however, was only founded about ten years ago, has a considerable floating population of Klings and Burmese. On casual inspection I found it only possible to distinguish the latter from the Samsams by the fact that they tattooed their thighs.

(B). ORANG LAUT KAPPİR. [Plates XIV, fig. 1 (*partim*) ; XV, fig. 1]

While I was awaiting an opportunity on Pulau Telubin to visit Pulau Mentia (Kok Muk), a boat belonging to the Orang Laut Kappir of that island happened to put in to avoid a squall. It had been hired by a Chinaman, who was on board, to bring rice from the State of Perlis ; but he was induced to turn back and to allow the Orang Laut to take me to their camp on Pulau Mentia instead. I was only able to stay one night on the island, but obtained a certain amount of information from the two Orang Laut, who formed the crew of the boat, during our journey thither, and visited a disused cemetery of the 'Sea Folk' on the way.

1. A. Steffen and N. Annandale, *Man*, Dec., 1902.

2. And it is not improbable that the makers may have merely followed a traditional model. H. C. R.

As I only saw five individuals, four men and a woman, of the Orang Laut Kappir, and as these individuals differed considerably in appearance, I am not able to give a general description of the outward characters of the race. Of the five persons examined, an old man and his wife could only be distinguished from the crowd of Samsams which surrounded them by the brightness of their eyes; two young men, sons of this couple, had much the same appearance as that of many Mai Darát youths, except that their hair was absolutely straight and lank, and their gait not that of jungle-folk; while the fifth individual, a man of about thirty-five, had an extraordinarily massive face and jaw. It has been our rule in the present paper to abstain from discussing cranial features other than those which can be distinguished by a superficial examination; but it may be noted that this man had, actually but not relatively, the longest head of any individual whom we measured in the Malay Peninsula. The brightness of the eyes was a feature which all five persons had in common, and the straightness of their hair was another. [The way in which the hair is brushed up from the forehead gives rather an erroneous impression in the figure (Plate XV, fig. 1)]. The four men measured 1,624, 1,612, 1,562, and 1,523 mm. in stature. Probably the Orang Laut Kappir could be differentiated generally from the Samsams by having wider noses, a well-developed epicanthus in a larger proportion of individuals, and a slighter figure, to note only superficial differences; but it seems likely that intermarriages have often taken place, if the inhabitants of certain Mahomedan camps or villages, such as that on Pulau Telibun, are not the direct descendants of Orang Laut Kappir, who have been induced to 'enter Islam,' and have become merged in the race which converted them.

The two families encamped on Pulau Mentia had no weapons, and had never so much as heard of blowguns. Their clothing, houses, and household implements and utensils, of which they possessed but a very scanty store, were identical with those of the Samsam camp on the same island, being most probably copied from them; but the two houses were larger and rather better constructed—though not more than six feet high—than the majority in this camp, from which they were separated by several hundred yards.

The boat in which I travelled resembled those of the Samsam canoes which have a superstructure of slender palm-stems, but was more elaborate. It was about fifteen feet long and rather narrow for its length, as was rendered necessary by the fact that it consisted essentially of a hollowed tree trunk. The superstructure of palm-stems, which was about two feet high, was tied by bands of split rattan to false ribs, that projected upwards above its level from the bottom of the boat. The bands were rendered tighter by being twisted by a

stick thrust beneath them. They passed through holes drilled in the false ribs, and, with the exception of the slips of bamboo on which the palm-stems were transixed, were the only form of connexion used in the construction of the craft, nails and pegs being absent from it. In the hinder portion of the boat there was a platform of split bamboo that raised passengers or goods well above the surface of the bilge water, and a kitchen fireplace, of the kind used throughout the Peninsula, formed part of the movable furniture. The steersman sat in the stern, on a framework raised above the platform and adorned with patterns carved on the back of a plank behind his seat. The patterns were emphasized by the use of black and white paint; they were of a simple floral character, and centred in a circular piece of common looking-glass let into the wood. The mast was not quite straight; it supported a single lug-sail of calico, rather large for the size of the boat, and bore on its top a wooden ornament resembling a pomegranate. The oars were about eight feet long, rather slender, and tapered suddenly to a point, in which respect they differed from those of the Samsam. They were lashed to rattan cords running between the tops of the false ribs and the side of the boat. When the sail was not in use, the mast was taken down, and, being rested at one end on the steersman's seat and at the other on a forked stick, acted as the ridge-pole of a kind of cabin formed of *kajang*—rough mats of *Pandanus* leaf stitched together in strips.

I was able to visit two Orang Laut cemeteries, both in the cliffs near the mouth of the Chau Mai River. One of them was situated in a magnificent limestone cave about a mile-and-a-half up the stream, and had probably been disused for many years, the cave having been exploited by Chinese pepper-planters, who collected bats' dung to use as manure. A Samsam man told me that formerly it was sacred (*kramat*) in the eyes of Mahomedans and infidels alike, and that the former, whenever they had occasion to pass its entrance, were accustomed to call out: '*Tabek, Datoh!*' ('Pardon, Lord!'), but that it was no longer sacred since the Chinamen had come. In the darker part of this cave I found a number of coffins—rudely hollowed logs, with rough planks as covers. In one or two cases the covers were lozenge-shaped and were turned up at the ends, but, as a rule, they were flat and approximately rectangular. The bones had completely decayed, only fragments remaining, but there had evidently been cloth and wooden objects at one time in the coffins. The Samsams of Ban Pra Muang told me that in former days they used to obtain gold ornaments, knives, and other articles of value from the bodies placed in this cave. The only things of interest that remained were some curious imitation swords or daggers of palm-wood and bamboo

(Plate XIV, fig. 1), one of which I found in a coffin, while the rest had already been appropriated by Chinamen, who had set them up, together with pieces of stalactite naturally having a more or less close resemblance to human figures, on ledges of the rock, and had burnt joss-sticks before them. The Orang Laut youths who accompanied me told me that these daggers were always placed with dead men, in order to enable them to fight the *pi*,¹ or spirits; and that women were given rice-stirrers instead.

The other cemetery of the Orang Laut Kappir was on the sea-shore, under an overhanging cliff about a hundred yards above tide-mark. Though the coffins had here decayed as completely as the bones in the cave, and though I was told by Samsams that this cemetery had not been used for ten years, the condition of some of the skulls leads me to believe that bodies had been placed there more recently. Several conical mounds in the sand made it seem probable that interments had taken place, but I was unable to investigate them, and the bones from coffins left on the surface were scattered about, together with a large number of vessels of pottery and Chinese porcelain that had evidently held offerings of food.

An old Orang Laut Kappir man on Pulau Mentia told me that his people now buried their dead, placing with them a bottle of water and a cocoanut, and inserting a dollar in the mouth; but that formerly corpses were always deposited in the cliffs of Chau Mai, even if they had to be brought for a considerable distance. Their chief cemetery was now on Pulau Lontar, some little distance to the north of Pulau Mentia. The placing of a silver coin in the mouth of a corpse is, Mr. STEFFEN tells me, also a Siamese custom in Trang; but in the case of the Buddhists it is always abstracted, with the tacit approval of the relatives, by the man who superintends the cremation.

I was also informed by the Orang Laut of Pulau Mentia, whose statements were confirmed by the Samsams encamped near them, that their people never have more than one wife, whom they cannot divorce except for wrong-doing—a contingency which appears to be practically unknown. Two youths on this island had been engaged for two years to girls living on Pulau Lontar, and hoped to marry them shortly. They told me that the bride did not appear at the marriage ceremony of their people, which consisted in her father eating betel with the bridegroom, and that the reason why they could not cast off their wives was that 'her parents give the woman into the charge of her husband' (*ma pa perempuban kasi cbelaki juga dia*).

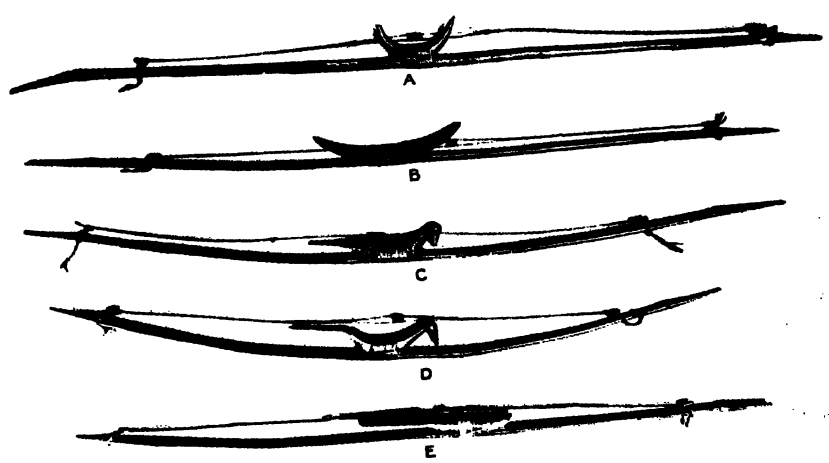
With regard to their religion, the Orang Laut told me that they feared the spirits of dead men, and made offerings to 'persons' (*orang*²) in the sea and

1. The word is Siamese, being the equivalent of the Malay *hantu*.

2. The word is, of course, pure Malay; its common equivalent in the dialect of the Orang Laut Kappir being *semiah*, though they do call themselves *Orang Laut*.



Fig. 1.



in the heavens. They said that there were three such persons in the heavens, two males and a maiden, and two in the sea—a husband and wife; but when asked to give the names of their deities, they would only reply 'Allah-ta-Allah.' They also stated that twenty days after a person had died the relations gave a feast, first placing three platefuls of food upon the grave, and then eating what remained.

The Orang Laut Kappir speak a dialect of Malay differing from that of the neighbouring peoples, and showing more resemblance in its pronunciation to the dialect of Patani. It includes, however, certain words that are quite unknown either in Patani or in Perak, and that do not sound like Malay.

The original home of this race is said by themselves to have been the large island of Langkawi, lying off the coast of Kedah. They told me that their people originally possessed the whole of this island, but that when the Malays first conquered it, those of the inhabitants who refused to 'enter Islam' became wanderers on the face of the sea, having no fixed habitation on land, but encamping occasionally on the islands off Trang and the more northerly states. It is improbable that the Malays themselves were Mahomedans when they first occupied Pulau Langkawi; but it seems to be certain that the Orang Laut Kappir of Trang practically lived in their boats until within the last decade. A few years ago a number of them settled, more or less permanently, on Pulau Mentia, which the majority have more recently deserted in favour of Pulau Lontar, on which they are said to have rice-fields and palm trees of their own. Formerly they must have had a point of union in the cemeteries at Chau Mai, and at present they appear to be organized into definite clans, each under a chief, whom they call *Sinin*. They claim to be the same people as the 'Orang Besing,' who, they say, occupy the small islands off the extreme south of Tenasserim, speaking a language of their own which is not Malay. These 'Orang Besing' are said by the Samsams to be jungle folk as well as seamen, gathering rattans, beeswax, and the like in the woods of these islands; but I have not been able to discover whether they are regarded locally as identical with the Selungs of the Mergui Archipelago.

EXPLANATION OF PLATE XIV

FIG. 1.

A, B, C. Bamboo and Wooden Daggers, placed in the coffins of Orang Laut Kappir men, to enable them to fight the *pi* (spirits). Koh Chau Mai; Coast of Trang. Scale, rather more than $\frac{1}{2}$.

D. Paddle-shaped Rice Stirrer. Samsam; Pulau Mentia (Kok Muk), off the Coast of Trang. The blade is proportionately longer than in the real paddle. Scale, $\frac{1}{2}$.

E. Samsam Dagger and Sheath. Ban Pra Muang; Coast of Trang. The blade is the bony sting from the tail of a ray or skate; the sheath and handle are made of light, spongy wood, bound with brass. Scale, c. $\frac{1}{2}$.

FIG. 2.

Samsam Vaguet Bow. Ban Pra Muang; Coast of Trang. Thumb guard of C represents a turtle dove and D a woodpecker. Figures reproduced from photographs of specimens now in the University Museum, Oxford.



Fig. 1. ORANG LAUT KAPUR standing beside hut.
P. MENTIA (KOK MUS), off the COAST OF TRANG.



Fig. 4.

PERAK MACAUS—KUALA KANGSAR, CENTRAL PERAK.

Fig. 5

PART III. THE MALAYS OF PERAK

(Plate XV, figs. 2-5)

DURING our stay in South Perak, by far the greater part of the time that we were able to devote to Anthropology was spent in studying the Mai Darát. Contact with occidental civilization for a period of nearly twenty years, has rendered the South Perak Malay shy of ridicule and reluctant to discuss himself, or his manners and customs, with white men with whom he is unacquainted. In this direction, therefore, our work was limited to recording the outward characteristics of the race, and obtaining a series of physical observations and of statistics, that might prove useful for purposes of comparison with the other races with whom we came in contact.

In Central Perak, ANNANDALE spent a few days in Kuala Kangsar, the residence of the Sultan, where the most typical of the Perak Malays are probably to be found, and was successful in obtaining a series of photographs, while in Upper Perak he also measured some twenty adult males. By a deplorable accident definite notes regarding this series are lost; but they showed that in general characters the Malays of Upper Perak assimilate to the East Coast type, to be hereafter described, rather than to the Kuala Kangsar and Batang Padang people, differing, however, in certain respects from both.

In crossing the Peninsula from Senggora on the East Coast, to Alor Stah, the capital of Kedah on the West, we were much struck by the change of type that was to be noticed among the inhabitants as we approached the latter town. Speaking generally, the Malay or Siamese of the Patani States or Senggora is a stoutly built individual, with thick-set limbs and a broad, almost 'moon-shaped,' face. In this part of Kedah, on the other hand, and in South and Central Perak, the prevalent type is slighter in physique, with more delicately formed limbs and clearer-cut features; the face is usually not so flat and is more oval in contour. Individuals of either type, however, are quite common in the particular habitat of the other, and, at least so far as our experience goes, it is almost impossible to judge with certainty the native state of any individual Peninsular Malay, though with practice a fair measure of accuracy may be attained.

According to the Census Report of 1901, the total population of Perak in that year was 329,665, against 214,254 in 1891; in 1901, 'Malays,' as distinguished from other races of the Archipelago and from 'aborigines,' numbered 131,037, against 96,116 ten years previously, and this substantial increase has been the subject of much congratulation in official documents as evidence that the indigenous Malay is holding his own in face of the economic competition arising from the increasing numbers of Chinese immigrants attracted by the prosperity of the mining industry, and, in a less degree, from the presence of Indian agricultural labourers.

But in 1891 the Chinese of Perak were less in numbers than the Malays by about two per cent. ; while now they exceed them by no less than sixteen per cent. Moreover, the methods of determining nationality seem, as far as the 'Malays' are concerned, open to grave objection. No account is taken of the fact that in Perak, and to an even greater extent in Selangor, there is a very considerable floating population, attracted from Kelantan and the Patani States, and, perhaps, also from Trengganu, who leave their own homes in the hope of earning a competence, which to them is a fortune, in the richer British States, but who, as soon as they have amassed a few dollars, return to their own state. There are, it is believed, greater numbers of these temporary residents now than was the case ten or fifteen years ago, owing to the abolition of local warfare on both sides of the frontier ; while in the districts of Selama and Upper Perak practically the whole population is of Kelantan, Rhaman, or South Kedah ancestry.

It may also be reasonably doubted if many of the people enrolled as Peninsular Malays are really so, and we can instance one case in point from our own experience. The total number of Achinese recorded in 1901 for the whole of Perak is only 88 ; but in the two villages of Bidor and Sungkei in the Batang Padang district, where there is no reason to believe that members of this race are more numerous than in any other mining district, out of perhaps fifty people who presented themselves for measurement we had to reject at least six as being actually Achin born, while several others, though claiming that they were 'sons of Perak,' admitted that both parents were foreigners. It will thus be seen that the Malay total has been swelled in recent years in two ways—(1) by actual, though temporary, immigration, and (2) by the natural increase of those aliens who have been attracted to the state from other parts of the Peninsula and Archipelago.

Now that the Siamese are establishing a stable and enlightened form of government in that portion of the Peninsula under their sway, there is little doubt that immigration into the British States from the Eastern side will

largely cease, while a return current is well within the bounds of possibility, the general expenses of living being very much smaller on the Siamese side of the frontier, where there is no considerable mining population to send up the price of provisions, and where the authorities are holding out inducements to settlers in the form of partial exemption from taxation.¹

To the south of Perak there seems to have been no settled Malay population in the State of Selangor until within the last five centuries, very possibly even until a much later period. Here the Sakai tribes have mixed, to a great extent, with hordes of Bugis men from the island of Celebes, while the country has been largely colonized by recent immigrants from Sumatra—Achinese, Korinchis, and other tribes—who are near akin to the civilized tribes of the Peninsula, but can generally be distinguished at a glance from either the 'typical' Perak Malay or the 'Indo-Chinese' Malay or Samsam of the northern districts.

Stress, however, must be laid upon the facts (1) that the process of immigration into the Peninsula of races subject to Malay culture has probably been going on for at least a thousand years, and (2) that, though this process has been tremendously accelerated in most directions by European influence, the same influence has checked it in others; for example, in the case of the Bugis men. It would be just as ridiculous to say that England became definitely and finally Norman, in blood and sentiment, on October 14, 1066 A.D., as to say that the Malay Peninsula became, in the same sense, Malay at any particular date.² The Peninsular Malay of to-day is almost as much a product of the confusion of races as the modern Englishman, and reversions to any one of his ancestors may be supposed to occur at intervals among his children; nor does the fact that many of the races from which he is descended were near akin make it any the easier to unravel the history of his ancestry. Moreover, the Malays of the Peninsula have never been welded into one nation, and the native of Kuala Kangsar still looks on the Patani men as foreigners and barbarians, while he reverences the 'son of Menagkabau,' from central Sumatra, as the purest representative of his blood. It is this which would make a definite and immediate ethnographic survey of the Peninsula so important before the confusion becomes doubly confounded.

1. In the Patani States a foreigner is allowed to clear land and keep it in cultivation without paying for it, unless, or until, he marries a native wife; while natives, or foreigners married to native women, pay a fixed proportion of the produce to the government.

2. Though by some the Malay Peninsula has been considered the original home of the 'Malay' race as distinguished from the Dyaks, Battaks, and other 'Indonesians.' Kohlbrügge, *L'Anthropologie*, Vol. IX, p. 1, Paris, 1898.

(A). SOUTH PERAK MALAYS

Leaving out of consideration one individual whose stature was only 1,232 mm. (though he appeared to be normally proportioned in every way), the mean height of thirty-six adult males, measured in Batang Patang, was found to be 1,594 mm.; the tallest man was 1,763 mm., and the shortest 1,488 mm., but the former, in his exceptionally long and narrow face and almost leptorhine nose, showed strong evidence of either European or Arab ancestry, though we were unable to discover anything in his family history that would warrant the supposition.

The colour of the skin of the Malays in this district, inspected in parts of the body not exposed to the air, was surprisingly uniform, ranging from dark olive through red to olive, the great majority of cases being recorded as between the two former tints. In one instance, that of a man from Sungkei, the colour was between chocolate and dark olive, similar to the general colour of the Semangs; but no Malay whom we examined in Perak approached the fairer Sakais from the mountains in complexion.

We have recorded the hair as 'straight' in all but two cases; but it was usually cut so short that a slight amount of waviness would have escaped notice. One case is registered as 'slightly wavy' and another as 'curly,' and it is a significant fact that the latter man has the darkest complexion of any individual in the series, the two characters together affording a very strong presumption of 'aboriginal' descent. On the face, hair is almost entirely absent until about thirty-five years of age, and is scanty at all ages; but it must be remembered that artificial depilation is largely practised: body hair is also extremely scanty. In colour, the hair is invariably of a lustrous black, without the sooty or reddish tinge often noted in the Semangs and Sakais, and occasionally in the Malayo-Siamese of the Eastern States. As we have pointed out before, it is doubtful how much of this greater intensity of colour is due to care and the use of hair oil.

The eyes were usually black, but in ten cases had a reddish-brown colour. The epicanthus was absent in eleven cases, vestigial in seventeen; in six it covered about half the caruncle, and in three was rather more extensive; but in no case was the caruncle entirely obscured. The noses, while of much the same character as those of the Samsams and Malayo-Siamese, were less coarse in type, and a fairly definite bridge was generally present; the alae were less widely spread, and the nostril less patent; in no case did the breadth exceed the length. The hands and feet seemed to us to be more finely moulded than those of the other civilized races of the Peninsula, and the feet, possibly owing

to the more general use of shoes, appeared to be less flattened, with a somewhat higher instep ; but these racial differences, if they exist in reality, are but slight.

A slight amount of prognathism was usually present, but the lips on the whole were not as thick as among the East Coast Malayo-Siamese. The general character of the face was more or less platyprosopic, and there was often a marked asymmetry between the ears, due to the habit of carrying small objects behind one or the other.

Our information on the general customs and mode of life of the South Perak Malay is, for the reasons we have indicated, so scanty that we propose to incorporate it in our fuller paper on the Malayo-Siamese.

(B). UPPER PERAK MALAYS

The inhabitants of Northern Perak seem to be identical with the 'Malays,' or perhaps, to speak more accurately, with the Samsams of the adjacent parts of Rhaman and Kedah, from one or other of which states the greater number of them claim to derive their ancestry. They do not differ at all conspicuously from the Samsams of Trang, being, in all probability, very closely related to them. Their noses are inclined to be straighter, and their faces are distinctly flatter and broader than those of their southern compatriots, and their skin has a tendency to be yellower and clearer, while their stature is slightly greater. ANNANDALE noticed a considerable number of Malays in Upper Perak and in the Jarum district of Rhaman, whose eyes were reddish-brown, of a paler shade than that common among the Semán. The hair of those Malays who live in Upper Perak on the north-east of the Perak River is almost invariably straight and lank and has no reddish tinge, but, as already noted, the inhabitants of Temongoh, a village on the other side of the stream, are so largely the immediate offspring of 'aborigines' converted to Islam that they differ in type from their neighbours, having, in a large proportion of individuals, hair that is not straight. The lank-haired 'Indo-Chinese' type of Malay is predominant in a region that stretches from about half-way between Kuala Kangsar and Grit, in Upper Perak, right across the main range of the Peninsula in a north-easterly direction, to Jarum, in Rhaman. Once ANNANDALE reached the Patani River on his journey across the Peninsula at this level, he found that wavy or curly hair, dark complexions, and other evidences of Semang blood, were characteristic of a large proportion of the rather scanty settled population, but that a comparatively small number of individuals, who often belonged to families the other members of which exhibited the characters just noted, had lank hair, while their complexion was so yellow that they appeared quite pale

in comparison with their own relatives. The existence of two types, side by side in the same community, was, in fact, extremely marked, more so, perhaps, than in any other part of the Peninsula we visited, and certainly more so than on the lower reaches of the same river.

The culture of the Malays of North Perak is identical, in all respects, with that of the Malayo-Siamese of the Patani States ; information regarding some very remarkable beliefs and religious ceremonies investigated among them will be found in a later paper.

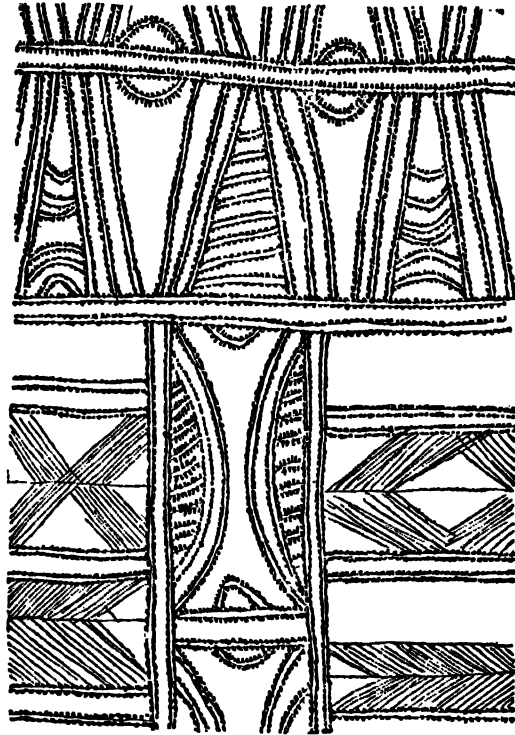


FIG. 15. Incised and Pricked Ornamentation from Bamboo Dart Quiver. Pô-Klô ; Temongoh, Upper Perak. Patterns—'Hills' (top row) ; 'Argus Pheasant' (on either side) ; 'River Turtles' (in centre) ; (cf. Figs. 3, 5, 6 ; pp. 17, 25, 26).

PRIMITIVE BELIEFS AND CUSTOMS OF THE PATANI FISHERMEN

By NELSON ANNANDALE, B.A.

STUDENT IN ANTHROPOLOGY AT THE UNIVERSITY OF EDINBURGH

THE fishermen who ply their calling in Patani Bay live in a number of small villages near the mouths of the Patani, Jambu, and Nawngchik rivers. Without exception they are Malays, that is to say, Mahomedans, for the Siamese are not here a coast people. Though women sell the fish in the market, and do most of the work in connexion with the drying and salting the surplus, they do not, as a rule, accompany the men to sea. There is one old woman of the village of Jujul who does so ; but she is considered quite exceptional. Most of the fishing is done by means of nets, which are let out in a circle, either from the shore, or, more commonly, from a boat. The boats, into the construction of which I do not propose to enter, are of two classes, differing from one another in size and in the distance they go from shore. Even the larger kind does not go more than a few hours' journey, while the smaller is confined to water not much more than five feet deep. Both classes are owned by companies, the partners in which may be women or men who do not engage in fishing themselves, though all are entitled to a certain proportion of the profits. The net, which is taxed according to its length by the Siamese Government, may belong to a different association from that which owns the boat. The larger kind of boat carries a crew of some fifteen men, one of whom is its *bômor ikan*, or 'fish-doctor.' His duty consists in reciting the charms and making the sacrifices necessary to procure good luck and to keep away malicious spirits, and also in leaping into the water when the fishing-ground is reached and swimming about until he hears the fish. He must then raise his body in the water and wave his arms to call his companions to bring the boat and let out the net. It should be noted that several kinds of fish common in Patani Bay can utter a grunt like that of the gurnards of our own coasts. The smaller kind of boat does not need more than three men to work it and the net. It is with the men who are generally associated with this class of work that the present paper chiefly deals, as the author has had more opportunity of observing and questioning them than those who may be called deep-sea fishermen.

FISH CULTS

Not the least interesting feature of the beliefs of the Patani fisher-folk is that certain families (*kaum*), forming only a small proportion of their numbers, are named after certain fishes, which they refrain from killing or eating. Each family of the kind has a particular fish that its members reverence. It is difficult to give a satisfactory account of these fish cults, because the whole system is now in a moribund state, though the Patani Malays have been probably as little subjected to direct European influence in recent times as any Malays still living. The following information was gathered by questioning a considerable number of fishermen, some of whom belonged to fish families and some of whom did not, after the existence of the cults had been discovered accidentally. They were quite willing to tell what they knew, but seemed, in many cases, even though proud of belonging to one of the families, to be really ignorant of details. Old men stated that they themselves were less strict in observing the prohibitions regarding their family cults than their fathers had been, while their sons were even more lax than they; young men said that the prohibitions were instituted so many generations back that they were becoming less binding, or dogmatically asserted that these prohibitions had been laid on a definite number of generations, the last of which was that of their fathers. The members of a family, however, still call the particular fish of their reverence, *Datoh*, i.e., 'Grandfather' or 'Lord'—a title often given by Malays to real or legendary personages or beings for whom respect is felt. They also refrain from eating their *Datoh*, but how strictly the prohibition against killing is observed depends on individual conscientiousness; thus, one man will go through the catch after every haul of the net, and will throw back into the sea any specimens accidentally included, while another, belonging to the same family, will content himself with refraining from discriminate killing, not troubling to prevent his *Datoh* from dying with the other fish, and having no scruple about selling its body to persons who do not practice its cult.

When a member of a fish family is sick or unfortunate, or even when one of his friends, who is not a member of the family, is sick or unfortunate, he makes a sacrifice to his *Datoh*, and begs him that the trouble may cease forthwith. The sacrifice consists of rice cooked with turmeric—a compound very commonly used in ceremonies of a religious or magical nature in all parts of the Malay Peninsula and also in the Archipelago—of parched rice, and of wax tapers. So far as I could discover, no formula or dedication is now used, the prayer accompanying the sacrifice being made in the offerer's own words. The offering is laid on the sea-shore.

Women, as a matter of practical experience, are not subject to the prohibitions of the fish cult, because, as several fishermen explained to me, they do not go to sea. It was hard to discover exactly in what way the cults are hereditary, as differences of opinion existed on this point among the fishermen questioned themselves. Some said that the prohibitions were only hereditary on the mother's side of the family, while others thought that a son should inherit his father's *Datoh*, and a daughter her mother's, so far as women were liable. It was pretty generally agreed, however, that when a man who did not belong to a fish family married a woman who did, he was liable to the prohibitions of her family, seeing that he became a member of it; and that in the case of a couple belonging to different fish families, the husband should practice the cult of both. In this connexion it may be stated that it is customary for a bridegroom to spend the first fortnight of married life in the house of the bride's parents. At the end of fifteen days his own parents come and conduct the couple back to his old home, where they live together until he can afford to have a house of his own. It is the duty of grandfathers, both maternal and paternal, to instruct their grandchildren regarding their *Datoh*. The families are, strictly speaking, neither exogamous or endogamous, but a prejudice exists among their members, as is often the case among Malays, against allowing girls to marry out of the family.

Only two fish families now survive in Patani, those of the *Ikan Lelayang*¹ (i.e., *Ikan Layang-layang*, or 'Swallow Fish') and the *Ikan Lemuk*,² or 'Fat Fish,' but others are said to have existed formerly, notably that of the *Ikan Paus*, or 'Whale.' Both families tell the same story of the origin of their cult, but there is a slight variation due to individual narrators. Once upon a time the ancestor of the family, who was a Bugis raja, was shipwrecked, and all his companions were drowned. He clung to a mast, until he saw what he thought was a log, upon which he leapt and was carried ashore. The supposed log was the *Ikan Lelayang*, or the *Ikan Lemuk*. Having thus been saved by the fish, the ancestor called together his children and grandchildren, and made them swear never to eat the flesh of his saviour, telling them that sickness would fall upon them if they did. Another version of the legend has it that it was the fish itself which spoke and made the ancestor swear on behalf of his descendants.

I do not believe that these fish cults are confined to Patani, but think it probable that they are spread, or have been spread until lately, all round the coast of the Malay Peninsula, if not in the Archipelago. Those that still exist

1. *Trichyrus* spp.

2. *Lactarius delicatulus*.

3. Cf. the story, from Leyden's *Malay Annals*, of the Indian prince and the *Ban Alu-ala*, discussed by A. O. Blagden in a 'Note on the word *Kramat*,' appended to *Malay Magic*.

are said to have had a local origin ; all the members of the *Kaum Ikan Lelayang*, for example, claim descent from the people of a small village on the Patani coast that has now disappeared, while another fish family,¹ now extinct in Patani, is said to have come from Kelantan. My first knowledge of the existence of the fish cults was derived from a Malacca man, who was in our service at Patani, and who stated, in answer to a question whether the flesh of the hammer-headed shark was good to eat, that he himself was prevented from eating it by a curse (*sumpah*). On being further interrogated he said that his grandfather had warned him, as a boy, against eating hammer-headed shark, the reason given being that a Bugis ancestor of the family had been saved from drowning by that fish. It will be seen that the legend is identical with that subsequently told me, quite independently, by Patani fishermen. It is curious that these families call their ancestor a Bugis man, though, the Bugis men having been at one time the great traders of all the Malay region, this need mean no more, perhaps, than that he was a foreign merchant. With regard to the now extinct whale family, it is also worthy of notice that the Patani fishermen say that the *Ikan Paus* is an enormous fish, with teeth of white ivory, out of which *kris*-handles can be made : it is, therefore, a toothed whale. Moreover, they say that they have never seen an *Ikan Paus*, and that it does not occur off the coast, though probably it was found there formerly. Whales of all kinds are rare in the waters of the Malay Peninsula, though they are occasionally stranded at Singapore ; but toothed whales are, or were, common round Celebes and the Sulu Islands. The evidence, such as it is, points to the system of the fish cults having come from further east.

CROCODILE CULT

While questioning people regarding the fish cults at Patani, I heard that there was also a family whose members might not kill, or even be present at the capture of, a crocodile, and was so fortunate as to meet a very old woman belonging to this family who had a clearer idea of her family obligations than any other observer of an animal cult whom I came across. She told me that her family was called *Kaum Lomak*, and that it was a branch of 'Toh Sri Lam's Family,' and she gave me the following legend to account for the latter name and the origin of the family. At a village on the Patani River, formerly called Parek, but now known as Petiaw (Petioh), there once lived a maiden whose name was Betimor. Here father's name was Jusuf, the descendant of Maw Mi. She had three sisters, who were named Bedjitam, Berbunga, and Meh Sening. Her two brothers were called Maw Mi and

1. *Kaum Ikan Kikachang* (i.e., kachang-kachang). It still exists in certain villages of the State of Jhering. Its members call the fish *Sudara*, 'brother' or 'cousin,' not *Damh*.

Pandak. Betimor went down to the river to bathe and was lost in the water : the bubbles rose up where she disappeared, and her jungle knife was left on the bank. Three days after she appeared in a dream to her father and told him that she had become a crocodile and must now be called 'Toh Sri Lam. So her father made 'turmeric rice' (*nasi kunyit*), parched rice (*beritis*), and 'red rice' (*nasi merah*), and took them with a white fowl and some wax tapers to the bank of the river where his daughter had been drowned. There she appeared to him, turned to a crocodile as far up as her waist. Afterwards she became altogether a crocodile, and, leaving her own village, went to a place called Ampat Palam, where her footprints were formerly shown. So far the old woman : the following additions to the legend were told me by a boatman on the Patani River, who was not himself a member of the crocodile family. In her old age, 'Toh Sri Lam went to war in the State of Ligor. (Another Patani man told me that she went to fight with the Datoh of Kedah). She came out of the water in the likeness of an old woman and asked some people in a passing boat to take her with them. When they reached Ligor, she begged them to put her ashore and to watch what would happen. Then she dived into the water and swam away, gradually turning into a large crocodile before their eyes. She still remains in the Ligor River, where she causes a great whirlpool by continually turning round and round and lashing about with her tail. The boatman said that he had gone up this River himself in the train of some great Siamese official, and had seen the footprints of 'Toh Sri Lam on the bank. When the procession of boats approached the pool in which she lives, they lit torches and lamps and made as much noise as possible, firing off guns and beating drums, in order to drive her away and to prevent the boats being overwhelmed in the whirlpool.

The old woman claimed descent from Maw Mi, one of 'Toh Sri Lam's brothers, and said that other branches of the family had another brother or sister as an ancestor or ancestress. All collateral descendants of 'Toh Sri Lam call her *Datoh*, and regard her as their guardian. Formerly they made sacrifices to the crocodiles of the Patani River, but the custom has now died out. They believe that 'Toh Sri Lam had direct crocodilian descendants, which are distinguished from other crocodiles by being 'white,' that is, of a pale colour. 'White' crocodiles are *kramat*, or sacred ; they are held in reverence by other people as well as those who belong to the crocodile family, and, like all animals that are *kramat*, are believed to refrain from doing injury to human beings except under special circumstances. It is only descendants of 'Toh Sri Lam who are prohibited from killing or capturing ordinary crocodiles ; but if a person who belongs to her family is present when any crocodile is killed or captured, he will have a bad attack of fever.

All descendants of the brothers or sisters of Betimor can invoke the aid of 'Toh Sri Lam in sickness or other misfortune, or they may even do so on behalf of other people for hire. A shrine still exists at the place where Betimor became a crocodile, and any one may dedicate offerings and make petitions to 'Toh Sri Lam there ; members of the crocodile family being privileged to do so either at the shrine or at home, wherever they may happen to live. My informant, though herself one of the privileged family, had visited the shrine at Petioh no less than three times. On one occasion, a raft loaded with merchandize belonging to herself and her husband had stuck on a snag in the river, and it was found impossible to get it free until the pair 'went to their ancestor' and offered three fathoms of white cloth to cover the shrine. As a rule, however, the old woman sacrificed to her *Datoh* in her own house, offering three wax tapers and some parched rice. She told me that she made use of no special formula in making her request, but said, 'Datoh Sri Lam, your granddaughter begs to be freed from sickness and brings you food.' If the petition happened to take any other form in her mind, she made use of it. After the offering had been dedicated at home, it was taken and laid on the bank of the river. If my informant was ill or unfortunate she would make a vow to dedicate an offering once a month or oftener for a stated time.

It is dangerous for anyone to promise an offering to 'Toh Sri Lam if he does not really intend to make it, for persons who do not fulfil their vows to her become very sick and are irresistibly attracted to the river, into which they rush and in which they remain until the incensed *Datoh* is appeased with an enormous offering of food and wax tapers.

The family of 'Toh Sri Lam reckons descent in both the paternal and the maternal line ; thus, the grandchildren of my informant, whether they were the children of sons or of daughters, were both liable to the prohibitions, and are able to perform the private sacrifice. Her husband, who was not a member of the family by birth, had become, as it were, affiliated to it by marriage ; he was in the family, but not of it. He was not allowed to take part in the capture or killing of crocodiles, but could not make the private sacrifice, not being an actual descendant of Betimor's parents.

The cult of the crocodile as an ancestor or ancestress does not appear to have been originally confined in the Malay Peninsula to Patani, where it is now all but extinct. I believe that at least one important native official in the State of Perak claims to be descended from a crocodile, and what is evidently no more than another version of the Patani legend of 'Toh Sri Lam, is related by Mr. W. W. SKEAT,¹ who had heard it from a Labu Malay in Selangor.

1. *Malay Magic*, pp. 285, 286, London, 1900.

In it, 'Toh Sarilang is a little boy who is turned into a crocodile in the same manner as 'Toh Sri Lam, and who tells his mother how to cure the crocodiles when they become ferocious. Mr. SKEAT, however, makes no mention of any ancestral cult connected with 'Toh Sarilang. In other parts of the Peninsula the crocodile is regarded as a being of extraordinary discrimination,¹ and many curious beliefs are held regarding it. (For example, it is believed, both in Patani and in Kedah, that if a mosquito curtain is washed in the river all the crocodiles will become ferocious and attack human beings). At Lampam, in the State of Patalung (Muang Talun), the brother of a local Siamese raja has set up in the market-place a crocodile shrine² in which fishermen, about to set out to their work, make petitions before the skulls of crocodiles arranged upon a shelf.

OTHER BELIEFS REGARDING ANIMALS

Both among the Patani fishermen and in other parts of the Siamese Malay States there are many persons who refuse to eat the flesh of certain animals, alleging that they cannot endure the smell of that particular kind of meat. It is true that Malays are very keen of scent and make far more use of the sense of smell in examining edible and other objects than Europeans do, but it is quite possible that these prejudices may have another meaning, not to be revealed to strangers. One of our men, himself a member of the *Ikan Lelayang* family, told me that another family, to which he was related, had two sacred (*kramat*) tigers attached to it. If one of its members was going on a journey, he could summon the two tigers to protect him by the way, and if he performed the semi-magical, semi-dramatic ceremony known as the 'Princess Play' (*Main Putri*), the tigers would come and listen with their fore-paws on the ladder steps.

These isolated facts, taken in connexion with the now moribund system of fish cults, tend to show that there formerly existed in the Malay Peninsula a system comparable to, but probably more highly developed and complicated than, that practised by the Sea Dyaks of Sarawak, and lately described by Messrs. CHARLES HOSE and W. McDUGALL.³ According to these authors, certain individuals among the Sea Dyaks have a guardian spirit (*Nyarong*), which becomes materialized in some animal, plant, or inanimate object. Naturally such persons refrain from injuring their materialized protector, and the cult may even become hereditary owing to a father pressing his children, or a chief his followers, to observe it. The fish cults at Patani, however, have become definitely hereditary, and communistic rather than individual.

1. Skeat, *l.c.* pp. 290, etc.

2. Scott, *Geograph. Mag.*, 1900, p. 521.

3. *Journ. Anthropol. Inst.*, Vol. XXXI, 1901, pp. 199 *et pass.*

The cult of 'Toh Sri Lam, on the other hand, appears to approach nearer to that of Silau, as recorded by the same authors, among the Kelamantans of the interior of Sarawak. Silau was a man who was turned into a crocodile, his feet first becoming the reptile's tail, and who afterwards had a kindly regard for his relatives. The Kelamantans make images of the crocodile, however, which the Patani people, being Mahommedans, do not do. Though I have described the crocodile family together with the fish families for the sake of convenience, its members are not necessarily fishermen or even coast people. The metamorphosis of Betimor, like that of the Bornean Silau, is believed to have taken place up the river. Possibly the names Sri Lam and Silau may even have a common origin, as Sri Lam and Sarilang certainly have, the Patani form having become assimilated to Siamese. There is a large Malay population in Iigor though Siamese is probably the only language spoken at all commonly in that state, as is the case in Patalung—the next state further south.

THE 'SOULS' OF BOATS

The Patani fishermen believe that every boat or ship has an individual essence or 'soul,' which they call *mayor prabu*. They regard this essence as keeping the boat from dissolution, being generally invisible, but able at will to render itself visible (*kasi nampa*). This it very rarely does, though it commonly demonstrates its presence by uttering a sound like '*chereck! chereck! chereck!*' It is considered very lucky for fishermen to hear this sound in their boat, as it proves that the *mayor* is strong. When the *mayor* actually reveals itself in bodily form, even greater good fortune is presaged. In the case of a small boat, such as a dug-out canoe, the proper form of the 'soul' is a fire-fly, in that of a larger boat, a snake, while a ship has a human 'soul,' that may be either male or female according to the qualities of the ship, the sex of which cannot be diagnosed by mere inspection. Luck or ill fortune in fishing is regarded as depending, to a great extent, upon the strength or weakness of the boat's *mayor*. When the *mayor* is weak it must be strengthened by offerings. If a long spell of ill fortune at sea occurs to the owners of a boat, the *bomor* is sent for, and the boat 'soul' is summoned by him, while 'sweetened rice' (*nasi manis*) is mixed with salt water and laid as an offering on the head of each rib of the boat. After this, a feast (*keduri*) is held, at which some fowls, a goat, or a sheep, are eaten, portions of the meat being probably offered at the same time to the *mayor* and other spirits. Offerings to the boat 'soul'

are always made on a Friday, because that day, besides being the Mahommedan sabbath, is also looked upon as the one on which spirits of all kinds have the greatest power and are most active. Some fishermen make it a practice to lay 'turmeric rice' on the prow of their boat every Friday as an offering to the *mayor*, and to leave it there during the week.

I was anxious to know in what way the boat 'soul' was supposed to originate, and questioned a number of fishermen on this point. Most of them replied that they did not know, but one said that just as the steamer did not exist as a steamer until all the wood and iron and engines in its construction had entered into it, so the *mayor prabu* did not exist until all the planks in the boat had been fitted together. My informants agreed in denying that the 'soul' was called into the boat by any ceremonial method, their phrase being 'it becomes of itself' (*dia jadi sendiri*).

SEA SPIRITS

Misfortune at sea is attributed, in many cases, to those spirits which are called on land *Hantu Laut*, or 'Sea Spirits,' but which, as is explained below, have a different name at sea. They are believed to be very numerous, and to be all evil and malicious, feeding on dead men. Like other *bantu*, many different kinds of which exist on land and in the water, the Sea Spirits have the power of changing their form and of rendering themselves either visible or invisible. They may take the appearance of giants walking on the waves, of phantom ships that disappear when approached, or of lights like those of enormous fireflies that dance over the sea or settle on the masts of boats. The last is their most common manifestation, as seems to be also the case on other parts of the coast of the Malay Peninsula. It is believed that a *Hantu Laut* sometimes sits on a mast in this form and pours down dirty water into the boat until it is filled and sinks, the spirit's object being that it may feast on the crew when they are drowned. Opinions differ, however, as to whether it actually devours their flesh, some fishermen asserting that it only drinks up their *semangat*¹ or 'directive souls.' Some *bomor ikan*, however, know a charm by which the dirty water poured down by a Sea Spirit can be transformed into fish of a highly esteemed species known as *Ikan Duri* or 'Thorn Fish.'

There are, of course, innumerable methods of terrorizing and keeping away the *Hantu Laut*, and a knowledge of some of these methods forms part of the stock-in-trade of every *bomor ikan*, while other and more simple modes of safety are known to every fisherman. For example, the Sea Spirits at

1. *Malay Magic*, p. 279.

2. *Man*, February, 1903, p. 27; and *postea*, s.v. *semangat*.

Patani, like the mineral spirits' of the interior, have a horror of limes, and when a new boat is launched, or an old one painted or repaired, a 'sea doctor' is summoned to protect it against the *Hantu Laut* by hanging up from its prow strings of this fruit, together with the inflorescence of a cocoanut or areca palm and strips of red and white cloth. He does this with elaborate ceremonial, regarding the details of which I am ignorant. A curiously interesting method of putting a spirit to flight, be it of land or water, is well known to the Patani fishermen, and can be practised by anyone: it is that of causing the spirit to be 'shocked' (*jadi malu*) by lifting up the clothing and unduly exposing the person.

BEACH SPIRITS

Besides actual Sea Spirits, the Patani fisherman also fears the *Hantu Pantei*, or 'Beach Spirits,' regarding them as the cause of convulsions or epilepsy, which is commonly called 'pig-madness' (*gila babi*), because it causes those who suffer from it to grovel on the ground like a pig. A fisherman in our service at Patani had become 'pig-mad' after an unfortunate love affair, and his affliction was believed to be due to his wandering in a distracted condition by the edge of the sea, thus permitting a beach spirit to enter him. His back was horribly scored where his father had beaten him to drive out the devil by which he had been possessed.

PERSONS WHO CAN CAUSE STORMS

Certain persons are believed in Patani and the neighbouring States to have the power of raising a storm or stilling the wind by a wish, the power being innate rather than acquired, and often associated with some physical deformity. Thus, a late Siamese raja of Nawnghchik, who was known to his Malay subjects as Raja Pipi Itam (Prince Black-cheek), on account of a black mark that covered one side of his face, was regarded as having this power in an eminent degree. He had also the reputation of being able to cause a man to die a violent death (*mati di-bunob*, literally, 'to die of being killed') within three days by merely cursing him. It was easy to understand that a raja would have had an influence of the kind under the old regime, but our men, some of whom had known Prince Black-cheek in the flesh, denied that he gave any orders or directions that those whom he cursed were to die—it just happened. A *baji* or pilgrim to Mecca, still living in the State of Kelantan, is reputed to have powers similar to those of Raja Pipi Itam, and also suffers from a like deformity. As he is a *baji*, and therefore a good Mahommedan,

he only uses his command of the elements to secure good weather for friends at sea, and only curses sheep and goats that stray in his garden.

PROHIBITIONS

Like several other classes among the Malays whose work leads them into places regarded as the special haunts of spirits, the Patani fishermen consider themselves bound by certain rules and prohibitions, to transgress which would bring sickness or misfortune upon them. Their word for such restrictions is *pantang*'—a term also used by the other classes referred to, and translated by SKEAT and other authorities on Malay folk-lore, 'taboo.' I have thought it better, however, in spite of this precedent, to make use of no such technical term as 'taboo,' which has a very definite and restricted meaning in ethnography, slightly different, perhaps, from that attached to *pantang* in the Malay Peninsula; and I have therefore adopted the word 'prohibition,' as being less liable to misconstruction.

If a death occurs in a fishing village, no boat from that village must go to sea on the day following, and no one must set out on a land journey; the reason being that the boat or the traveller would have no luck, and would probably meet with some disaster. No fisherman must whistle when starting for the day's work or at sea, for fear that he should call the *wrong* wind; although, curiously enough, whistling is believed to bring a *favourable* breeze at Trang, on the opposite side of the Peninsula. When travelling between the mouth of the Trang River and the islands off the coast I have heard the method resorted to, much to the surprise of a Patani man who accompanied me, and who remarked that boatmen in his country would never have dared to summon the wind in this way, but would have muttered instead the following charm:—

‘*Cbium! Cbium! Daun Glam.*

Pangil angin! Pangil angin!’

(Kiss! Kiss! O leaves of the *Glam* tree. Call the wind! Call the wind!). The *Glam* tree is one whose leaves are made to rustle by the slightest breeze, like those of the aspen; but they are here regarded as causing the wind by their rustling. The whistling of the Trang boatmen was a very accurate imitation of the breeze rushing through the cordage of a boat, and whistling of any more elaborate kind appears to be unknown among the Malays of the Peninsula as an amusement or mode of musical expression. It is very interesting to find a simple little piece of sympathetic magic of the kind regarded in two such different aspects in different parts of the same country, though believed to be efficacious in both.

1. Locally pronounced much as a Frenchman would pronounce *painain*.

The most elaborate prohibitions, however, are those placed on conversation. To begin with, topics regarded as unlucky must be avoided. For example, when collecting sea snakes from the boats in Patani Roads, I chanced on one occasion to ask whether these snakes were deadly. No direct answer was given, but one of the fishermen, laying a hand on either cheek, reclined his head on one shoulder, saying, 'If a man is bitten, it will be in this way with him.' For some reason, it is considered most unlucky to talk, even indirectly, of a Buddhist monk, though there is no prohibition against speaking in direct language of a Mahommedan *imam* or *kali*. If any other conversational prohibition is infringed, it is sufficient for the transgressor to throw a little of the dirty water that collects in the bottom of the boat over his back, with the words, '*Lepas geros!*' (May the ill luck be dismissed!); but if a man mentions a monk, his companions will fall on him and beat him. No beast or reptile may be named at sea, and sea spirits must not be mentioned as such; while peculiar terms are used instead of several common verbs and substantives. Sea spirits, monks (if it is absolutely necessary to mention them), beasts, and reptiles, are all called *chebweb*; but fish and birds—the vulture being an exception—are spoken of in ordinary Malay, unless the name of a mammal forms part of their popular appellation. The domestic fowl and the domestic duck are also exceptions to this rule, but they are hardly regarded as birds by the Malays, who consider the pigeon (*burong merpati*) as the only domestic bird worthy of the name. The following vocabulary, though probably far from complete, is sufficiently full to illustrate the character of this 'roundabout' (*balik*) or 'prohibition' language:—

ENGLISH	MALAY	PATANI SEA LANGUAGE
Buffalo	<i>Krebau (kerbau)</i>	<i>Chehweh mu-áh</i>
Corpse, or dead man	<i>Orang mati</i>	<i>Chinerang bátáng</i> (trunk of the <i>Chinerang?</i>)
Crocodile	<i>Buaya</i>	<i>Chehweh gigi jaram</i> (separated, lit. 'rare, teeth')
Duck (domestic)	<i>Itek</i>	<i>Típang</i>
Dog	<i>Anjing</i>	<i>Chehweh king</i>
Elephant	<i>Gajah</i>	<i>Chehweh utu</i> (elephantiasis)
Foot (human)	<i>Kaki</i>	<i>Chehweh kura</i> (tortoise)
Fowl (domestic)	<i>Ayam</i>	<i>Bibaw</i>
Gecko (house)	<i>Chíchak</i>	<i>Chehweh chak</i>
Go fast, to make to	<i>Kasi dras</i>	<i>Mara-mara</i>
Horse	<i>Kuda</i>	<i>Chehweh dras</i> (fast)
Monkey (<i>Macacus cynomolgus</i> , or <i>Semnopithecus obscurus</i>)	<i>Krü, or lólong</i>	<i>Chehweh ekor panjang</i> (long tail)
Monkey (<i>Macacus nemestrinus</i>)	<i>Brok</i>	<i>Chehweh krikah</i>
Monitor Lizard (<i>Varanus</i>)	<i>Biawak</i> or <i>behwak</i>	<i>Chehweh pedan</i>

ENGLISH	MALAY	PATANI SEA LANGUAGE
Monk (Buddhist)	<i>Tohchah</i> or <i>psami</i>	<i>Chehweh kuning</i> (yellow)
Ox	<i>Lembu</i>	<i>Chehweh bong</i>
'Ox Fish'	<i>Ikan lembu</i>	<i>Ikan bong</i>
'Oxherd Bird' (<i>Acridotheres fuscus</i> ')	<i>Burong gambala lembu</i>	<i>Burong gambala bong</i>
Pig	<i>Babi</i>	<i>Chehweh tógong</i>
Rat	<i>Tikus</i>	<i>Chehweh chi</i>
Sea Spirit	<i>Hantu Laut</i>	<i>Chehweh</i>
Sheep or Goat	<i>Kambing</i>	<i>Chehweh beh</i>
Snake	<i>Ular</i>	<i>Chehweh akar</i> (root)
Snake (sea)	<i>Ular laut</i>	<i>Chehweh lehreh</i> or <i>glehreh</i> ('weaver's sword')
Steer, to	<i>Jermudi</i>	<i>Jeragam</i>
Tiger	<i>Harimau</i> or <i>rimau</i>	<i>Chehweh jalu</i> (striped)
Turn, to	<i>Paling</i>	<i>Mandang</i>
Vulture	<i>Burong ana 'reng</i>	<i>Chehweh kangah</i> or <i>Chehweh kapala bubu</i> (bald head)

After those words in the list that are literally 'roundabout,' that is to say, that are nothing more than short descriptions in ordinary Malay, I have put the literal translation in brackets, but I have not thought it necessary to repeat *chebweb*, which I am unable to explain, in each instance. Several of the names of beasts, as those of the tiger and the snake, explain themselves; *utu* is the Patani pronunciation of *untut* (elephantiasis or leprosy), and the explanation of *chebweb utu* given me by a fisherman was that the elephant's forehead bulged out as though it was suffering from this disease; I do not know why the human foot is called 'tortoise'; the sea snake referred to as 'weaver's sword *chebweb*,' because its flattened tail resembles the wooden implement of that name used in weaving; the monk is called 'yellow' because of the colour of his robes. As will be readily seen, several of the names are conventional renderings of the sound made by the beast they represent, for example, *beh*, *mu-ab*, *chi*; while *chak* is merely an abbreviation of the word in ordinary use, which is itself onomatopædic, the final *k* being very faintly indicated in the pronunciation of the Malay Peninsula. Other names, again, such as *bong*, *king*, *tópang*, and the like, are possibly derived from some other language: they may be Siamese, though I have not been able to find any parallels for them either in Bishop PALLEGOUX's¹ Siamese dictionary or in CRAWFURD's vocabularies,² for the Senggora dialect spoken in the neighbourhood of Patani differs considerably from standard Siamese.

1. I am indebted to Mr. H. C. Robinson for the identification.

2. *Dictionarium Linguae Tai sive Siamensis*, Paris, 1854.

3. *Journal of an Embassy to the Courts of Siam and Cochin China*, vol. ii, London, 1830.

It is not considered obligatory for the boatmen of the flat-bottomed salt-barges that pole their way along the shore to use the *pantang* language, and it is more necessary that the fishermen should use it at night than by day, for if they 'speak straight' in the dark while at sea, the *Hantu Laut* will appear. The only explanation that I could get from the Patani men regarding the origin of this peculiar dialect, was that men of old had found by experience that if ordinary Malay was spoken at sea the sea spirits were angry, and the boats either had no luck or met with some disaster.

On shore the fishermen are never tired of laughing at the difficulties experienced by landsmen in remembering to use the correct words at sea. They say that they talk of '*chebweb nasi*' instead of '*nasi*' (cooked rice), which is ridiculous; while they mention beasts by their proper names. The following story was told me by a Patani man, who evidently considered it very amusing:—'There was once a stupid countryman (*orang dārat yang bōdok*), who went to sea and heard the sons of the boat speaking the roundabout language. They had told him that the boat was made of the wood of a certain tree, and he thought that this kind of wood must be able to understand the roundabout language, which was used in order that it might do so. It chanced that there was a tree of this particular species standing beside his house, and as they came back to the shore, he saw that this tree was falling. So he called out, "*Manding! Manding, kayu!*" ("Turn! Turn, O tree!"). But the tree went on falling, and crushed his house. Then he called out in great distress, "The tree will not hear me! The tree will not hear me!" He had believed that by saying *manding*, instead of *paling*, he would be able to make the tree understand what he said.'

The word *chebweb*, or *chēweb*, is also used by the fishermen on the coast of Pahang, where, however, it is applied to birds' as well as to beasts, but it does not appear to occur in the sea language of the Langat district in Selangor.* My Patani 'boy,' who had himself been a fisherman in his native state, expressed surprise that the fishermen of the Trang coast had, so far as he could learn, no 'roundabout' language. It is probable that the Patani one may be used off Kedah, however, for many fishermen cross the Peninsula annually, as the fishing season on the West Coast coincides with the stormy season at Patani. The limited space at my disposal prevents me from entering into a comparison between the Patani prohibition language and those used by camphor collectors, miners, and others in different parts of the Peninsula, but I may note that all of these dialects appear to be formed

1. Hugh Clifford, *In Court and Kampong*, p. 147, London.

2. *Malay Magic*, p. 315.

on the same principle, partly by adopting unusual words (some of which may belong to an aboriginal language), and partly by substituting descriptive or imitative terms for those in common use ; *cbud*,¹ the substitute for *kayu* (wood) in the camphor language, may possibly be no more than a different way of transliterating the sound I have rendered *chebweb*.

OMENS AND LUCKY BIRDS

All those animals which must not be named at sea are considered at Patani to be unlucky omens when met as the fishermen are starting ; and a Buddhist monk is more unlucky than any of them. The monitor lizard is also especially unlucky, and it is a very bad omen to hear the cry of a house gecko. In order to vitiate a bad omen, the person or persons to whom it occurs must spit in the direction opposite to that of its approach, and the *mayor prabu* must be strengthened by an offering, laid on the sides of the boat, of *nasi manis* and salt water. Birds, on the other hand, are considered lucky to meet, except the vulture and domestic poultry, the most lucky being the ground dove or *Ketiti* (*Geopelia striata*) ; but the Patani people recognize several varieties of this bird that are apparently unknown to ornithologists, though some are lucky and others are not. They are as follows :—

1. *Ketiti Kuning* (Yellow *Ketiti*).² This variety is by far the most lucky, and also the rarest. Its dead body should be wrapped up in cloth and suspended over the rice-bin ; if the whole village is burned down, the rice-bin so protected will escape. A true specimen of the Yellow *Ketiti* has its beak, eyes, legs, and feathers of a clear yellow. It should have as many scales as possible, up to thirty, on each of its feet, and its liver should be very small.

2. *Ketiti Hitam* (Black *Ketiti*). A little less lucky than the former variety. It is entirely black, and its feet should have twenty scales.

3. *Ketiti Putih* (White *Ketiti*). Unlucky, because other birds have an enmity against it, and hawks attack it most readily. It has fifteen scales on each foot, and its head and shoulders are white.

4. *Ketiti Api* (Fire *Ketiti*). By far the most unlucky variety, for if it is kept alive in a house the house will certainly be burnt down. Its feathers are red or ruddy brown, and it has twenty-five scales on each foot.

Ketiti are snared in great numbers on the shore near Patani, and are

1. J. R. Logan, *Journ. Ind. Archip.*, vol. i. For other details, H. Lake and J. H. Kelsall, *Journ. Strain Branch Roy. Asiat. Soc.*, No. 26, pp. 39, 40. For much information concerning Malay *pantang*, see *Malay Magic*, pp. 156, 191, etc.

2. None of my informants had seen a specimen of this variety ; but the story of a poor man who caught one and subsequently became king of the country was well known to them. Mr. Robinson tells me that the black, white, and reddish varieties may occur as individual aberrations, and that melanism is not uncommon in allied genera, and appears in some cases to be produced by captivity.

often kept alive as pets, their cooing being much admired. It is not necessary for a specimen to be either yellow or black for it to get the reputation of being a lucky individual, and such specimens as have acquired fame through the good fortune that has accompanied them are often sold for large sums of money. The only way to know whether an ordinary *Ketiti* is really lucky or not is to keep it and see whether good fortune comes with it.

SEA SNAKES

The sea snakes (*Hydrophidae*), to which several references have already been made in the course of this paper, are among the most serious dangers in the life of a fisherman at Patani, for they are all very deadly, and when dashed about in the surf during the stormy season, also very vicious. It is true that few boats go to sea at this time, but several men are said to die annually owing to bites received while shrimping along the beach near the mouth of the Patani River. The following story was told me by my Patani 'boy,' to account for their venom :—

'Once the python (*Ular Sawa*) was the most poisonous, as well as the strongest of snakes. The python had a fish-pond, from which a man took the fish. The python bit the man, who went home and died. Next day the python saw the crow sitting on a tree outside the man's door. "Why do you sit here?" said the python. "I await the feast," said the crow. The python's heart grew sick, for he thought the man had recovered, and he went to the sea and vomited out his poison. Now, in the sea there was a snake called *Ular Berang*, who swallowed the python's poison; but a little remained, which the other sea snakes ate. Luckily the *Ular Berang* is very rare, and no one ever meets him, for his venom is so strong that if he bites the rudder of a boat, all the boatmen will die unless they leap into the water immediately.'

The superstitions and ancient customs described in this paper are not persistent, for what has happened on our own coasts is also happening—more slowly, perhaps, but none the less surely—upon those of the remotest parts of Malaya. The belief that clergymen are unlucky may no longer prevent British fishing-boats from putting to sea, yet it still lives in a furtive but tenacious way. Even to-day women baiting the fishing lines in villages within twenty miles of Edinburgh talk jestingly of the 'long-eared un' and the 'long-tailed un,' instead of the hare and the rat. At Patani the 'long-tailed un' is the monkey, and the rat is the beast that says '*chi-chi*.'

RELIGION AND MAGIC AMONG THE MALAYS OF THE PATANI STATES

By NELSON ANNANDALE, B.A.

RESEARCH STUDENT IN ANTHROPOLOGY AT THE UNIVERSITY OF EDINBURGH

INTRODUCTION

ORGANIZED RELIGIONS THAT HAVE INFLUENCED MALAY BELIEF

ALTHOUGH the Malays of the Peninsula to which they have given a name have professed the Mahommedan religion¹ for several centuries, it has remained in their case but a transparent veneer, covering a mass of Hindu and more primitive beliefs; it has set up in their midst an ideal of religion and morality which few of them have any desire to realize. A Malay, living in Patani, once remarked to me, 'We Malays will not hold Islam too fast, lest we be forced to cease from amusing ourselves with women, from cock-fighting, drinking arrack, and opium'; and he might have reviewed the religion itself of himself and his neighbours with equal cynicism. *Agama Islam*, the Mahommedan religion—in itself a term compounded of Arabic and Sanscrit—means very little more in the Patani States than circumcision, practised on both sexes—though often delayed until the nineteenth or twenty-first year in the case of males—abhorrence of pig, and to a less extent, abstinence from alcohol²; the old beliefs and the old Pagan customs are openly rife to-day, especially in villages where Siamese and foreign influences are felt the least, though all orthodox Mahommedans theoretically regard the customs as disreputable, if not vicious, and no *baji* and no *lebai* (a man who, without making the pilgrimage to Mecca, has become learned in the law and

1. Crawford, following a native annalist, gives 1276 A.D. as the date of the accession of Sultan Mahommed Shah, of Malacca, the first Islamite prince, as far as records go, in the Malay Peninsula. (*History of the Indian Archipelago*, vol. ii, pp. 374, 482, Edinburgh, 1820; see also Leyden's *Malay Annals*, pp. 91-93, London, 1821). Other authorities put this date a century later. (G. Deenys, *Descriptive Dictionary of British Malaya*, p. 202, London, 1894). At any rate, when the Portuguese besieged the city of Malacca in 1511, the Pagan 'natives' still formed an important element in the population, apparently quite distinct from Pagan 'foreigners,' and the conversion of the peasants must have been gradual.

2. The Patani Malays are fond of sweetmeats prepared from fermented rice, with a strong alcoholic flavour; but the Raja of Patani, when we showed him our collection of skins, refused to touch them until we assured him that they had not been prepared with 'strong water' (i.e., spirits).

the scriptures) will perform the ceremonies that other professing Mahommedans perform almost daily with great profit and even credit to themselves, commencing their incantations by reciting the Mahommedan profession of faith in Arabic, and then calling upon half-a-dozen Hindu demi-gods, and as many native spirits, in Malay. I was told in Patani that the most famous medicine-man in the country had started, some years before our visit, on the pilgrimage to Mecca. He had been so revered in Patani that, whenever he came to town—he lived in a small village some miles up the river—the Raja and the nobles went out to meet him on the water; but when he came to Mecca, a mysterious influence prevented him entering the holy city. Returning pilgrims brought back news that he was still encamped without the walls, praying that his witchcraft might be taken from him, though he had never practised ‘evil’ magic, which is quite a different thing from the work of the ordinary medicine-men.

These instances illustrate the position taken up towards Mahommedanism¹ by the people of the Patani States generally; but it would be unfair not to note that there are certain villages whose inhabitants are so strict that they cast out from among them any person who does not conform to the *Agama Islam* in all respects. Such communities centre in some venerated *baji*, who has gathered round him a school of *pakai*, or pious youths, who have entered his service in return for his tuition, performing the most menial offices for him, and renouncing gay clothing in favour of white.

It is probable that about half the inhabitants of the State of Nawngchik profess Buddhism, belonging nominally to the orthodox Siamese sect, and calling themselves, irrespective of their ancestry, ‘Siamese’ (*Kong Tai*); but south of the Patani River, Buddhism hardly exists as a flourishing growth. In all those districts in which it has sufficiently numerous or rich enough votaries, monasteries have been founded in the vicinity of the larger villages wherein the Siamese boys are taught reading, writing, and manners by the ascetics—it is hardly accurate to call them either priests or monks—to whose service their parents dedicate them as children, and whom many of them join for a period before marriage, donning the yellow robe as part of their education. Nevertheless, it is very doubtful whether even the most learned ascetics have any true idea of the philosophy of Gautama, and Buddhism, as in so many places,

1. The official religious organization of these states is very simple. Those villages which have a mosque—and their number is not great—have also an *imam*, and each state has a single *kali* or ‘*kathi*’ (*kadi*), who is recognized by the Siamese authorities as judge in civil cases concerning marriage between Mahommedans, or inheritance when the defendant is a Mahommedan. (*Regulation for the Administration of the Division of the Seven Provinces for the Year 120 (1901)*, § 32, p. 14, Bangkok). It is said that when an *imam* transgresses the law, he is liable by custom to twice the punishment of another, while the *kali* should only be brought to justice by a popular uprising. Instances are reported in which a *kali* who has misbehaved has been ducked in the mosque tank by an indignant mob. The *kali* is appointed by the raja, and appoints the *imam*.

is a matter of 'making merit,' not by piety or virtue, but by giving to the ascetics and the temples. Mahommedans¹ and Buddhists live at peace with one another, though the former do not hesitate to express a contempt, that is largely theoretical, for those whom they regard as the followers of Moses²; conversions from the one religion to the other, in both directions, occur not infrequently; indeed, so far as one who is not acquainted with the Siamese language can judge, there is very little practical difference between the popular religion of the two peoples. It is, however, almost impossible to gain accurate information in matters of this kind through an interpreter, especially when the interpreter belongs to a rival religion to that of the informant, and though many Mahommedans can speak Siamese, very few Buddhists can speak Malay.

It has been remarked by all who have studied Malay mythology that it is full of personages and incidents³ derived from Hindu cults; but it is not altogether clear how the Indian influence was brought to bear upon the Malays. There is much to be said for the view that it came about largely through intercourse with Buddhists, if it is not actually a relic of a former Buddhistic creed.⁴ We know that Indian traders visited Malacca before the Portuguese invasion, and the majority, at any rate, of these traders must have belonged to Hindu sects; but it is improbable that they penetrated into the interior of the country, and no adequate proof⁵ of an actual Hindu domination of the Peninsula has been adduced, though it is possible enough that the Malays may have brought many Hindu ideas with them from their former home. Material evidence is not wanting that Buddhism once flourished more widely in the Peninsula than is the case at present. Ancient, apparently Buddhistic, inscriptions have been found⁶ in Province Wellesley and perhaps in Singapore, while, on the eastern side of the main range, Buddhistic votive offerings are common in caves at least as far south as central Pahang. Yet Buddhism is no longer extant in the Federated Malay States and the Straits Settlements, though there is a Buddhist monastery in Penang. It is probable

1. The Malays of Sai Kau, in Nawangchik, during their annual purification ceremony, call in the aid of Buddhist ascetics as well as of a Mahommedan *imam*, and a *bémar*, or medicine-man. The ascetics, however, are only invited to conduct their prayers and chants at night, while a theatrical performance of one kind or another is in progress.

2. They believe Moses and Gautama to have been the same person (*antea* p. 59).

3. Many of these personages and incidents are kept constantly before the eyes and in the ears of the people by the *wayang kulit* or shadow play. Cf. H. H. Juynholl, *Bijdr. Taal-, Land- en Volkenkunde Nederlandisch-Indië*, 1902, pp. 541-545.

4. Newbold, *Political and Statistical Account of the British Settlements in the Straits of Malacca*, vol. II, p. 193, London, 1839.

5. Cf. Maxwell, *Manual of the Malay Language*, pp. 27-29, London, 1899.

6. *Miscellaneous Papers relating to Indo-China*, vol. I, papers 20 and 21, by Lieut.-Colonel James Low and J. W. Laidlay, respectively.

that this religion has reached the Peninsula from two sources, direct from Ceylon and Southern India, and through Siam, whose king regarded the Sultan of Malacca as a rebellious vassal¹ at the time of the Portuguese conquest (1511 A.D.)² The votive offerings³ found in caves in the State of Trang on the west coast differ from those found in Jalor and Pahang, on the other side of the main range, in that they must have been the work of Indian artists, being Hindu in almost all respects but that of the inscriptions upon them, while those from Jalor and Pahang are purely Buddhistic and Indo-Chinese ; but it is practically certain that these east coast offerings are of very much later date than the ones from Trang. Chinese immigrants, with their multiform creed and their power of absorbing all religions sufficiently superstitious, appear to have had little influence⁴ on the beliefs of the Peninsula.

PRIMITIVE RELIGION OF THE MALAYS

There can be little doubt that the primitive religion of the Malays resembled that⁵ of the wild tribes at present inhabiting the Peninsula, in consisting of a dread of dead men's ghosts and other malicious spirits, which might be forced to do good, or cheated out of doing harm. It would be impossible at the present date to separate the details of this primitive belief from the foreign excrescences that have grown upon it, that is, without a very lengthy and exhaustive study, not only of orthodox Mahommedanism, Buddhism, and Hinduism, but also of the popular superstitions of Arabia, Persia, India, Siam, Sumatra, and the further isles of the Malay Archipelago, for all of these regions have had an influence on Malay thought. I do not propose to undertake any such task in the present paper, but merely to set forth what I believe to be the main outlines of the popular religion of the Malays of the Patani States. Before proceeding to do this, I may mention that my notes were derived from conversations with peasants, few of whom were either professional medicine-men or learned Mahommedans. I avoided the former class for several reasons : they are generally more cunning than

1. Crawford, *loc. cit.*, p. 404.

2. For evidence of an earlier Siamese domination in the Peninsula, cf. Groeneveldt, 'Notes on the Malay Archipelago and Malacca, compiled from Chinese sources,' translated in *Miscellaneous Papers relating to Indo-China*.

3. A. Steffen and N. Annandale, *Man*, Dec., 1902, Plate M.

4. Ninachetuan, who was put at the head of the Pagan natives of Malacca by Albuquerque, being deprived of his office unjustly, 'publicly sacrificed himself on a funeral pile—a solemn ceremony, conformable, it seems, to the religion he professed.' (Crawford, *loc. cit.*, p. 403). This is a purely Chinese custom, still occasionally put into practice by immigrants in the Peninsula who cannot force their debtors to pay what they owe them. A great fire is said to have occurred a few years ago in the town of Trengganu, owing to a Chinaman setting fire to himself for this reason, having first spilt several tins of kerosene in his house.

5. W. W. Skeat, *Journ. Anthropol. Inst.*, 1902, pp. 136-138. I do not understand Mr. Skeat's objection, in the published discussion that followed the reading of his paper, to a suggestion that certain less primitive Semang beliefs may have been derived from intercourse with Malays.

other men, and therefore more ready to invent information; each of them has his own theories, derived from the imperfectly understood charms and incantations that have been handed down to him, either orally or in very bad writing; indeed, the expression 'every medicine-man has his own school' (*lain bômor, lain skola*) is almost proverbial in Patani. I believe that the medicine-men pay more attention to foreign deities and spirits than to those of native origin, for foreigners are often regarded by primitive people as having more powerful magic than that of natives, and in the Patani States we ourselves were even asked to raise the dead; finally, to deal with the charms and incantations from which the medicine-men derive their theories, in an intelligent manner, it is necessary to have not only a very thorough knowledge of Malay, both 'good' Malay and the 'barbarous' *patois* of Patani, but also some acquaintance with Arabic and Siamese. The ordinary peasant of the Patani States regards ghosts, souls, and other spirits as such very ordinary things that he has no hesitation in speaking freely of them; and he has not, as yet, experienced the white man's ridicule.

PART I

SOULS AND GHOSTS

A soul is, I take it, for the purposes of comparative religion, a spirit permeating an organized body, in which it is innate, which it vivifies, regulates, or prevents from dissolution. If a soul persists after the destruction or total disorganization of its body, and if it remains on earth as a definite unit, it becomes a ghost. Taking these definitions, we find that the Malays of the Patani States believe in at least four different kinds of souls,¹ and numerous kinds of ghosts, as well as several of spirits whose exact position with regard to the organized body is not clearly defined; the souls, which are not necessarily peculiar to human beings, or even to bodies considered animate by ourselves, are as follows:—

The Nyâwa, or Life-breath. The word is Sanscrit, and the idea it expresses is probably quite foreign to primitive Malay religion. It is the breath of life,² almost, but not quite, a physical thing, for it is, in the opinion of a large number of Patani Malays, that part of a man which goes to heaven (*surga*) or hell (*jebannam*), as the case may be, after death. According to a *bidan* (midwife) in large practice round Kampong Jalor, both among Malays and Siamese, the *nyâwa* enters the human foetus at the end of the sixth month

1. It must be clearly understood that I am dealing at present with the beliefs of the Patani peasants, not with the more complicated theories derived by the medicine-men from their incantations.

2. Abbé Favre, *Dictionnaire Malais-Français*, vol. i, p. 620, s.v. *nyawa*, Vienna, 1875.

of pregnancy, at which date the child first 'becomes a person' (*jadi orang*), having previously been 'part of its mother's blood' (*saparoh darah bibu*). Before this date, especially before the third month, the husband¹ of a pregnant woman must be careful not to maim any animal, or even to cut down a creeper, lest he injure the unborn infant, which has not as yet assumed a personality. Hare-lip is believed in Jalor to be caused by the father having slit a fish's mouth to get a hook out, while his child was in this early stage of existence. After the sixth month of pregnancy less precaution is necessary, and I have heard the question discussed by natives as to whether the mother was also liable to the prohibition; but in the case of a woman, who does not habitually kill animals or cut down creepers, it is not a point of more than academic interest. *Ambil nyawa* (to take the life-breath) is a common euphemism in Malay for *bunuh* (to kill). It is used in a deprecatory sense, implying an idea that taking life is in itself a crime, for all breathing things have naturally a *nyawa*. I have heard a Malay remark, on returning from shooting birds, 'What a number of *nyawa* I have taken to-day,' not in a boastful tone, but quite as though he felt repentant of a sin.

Rôb ('that which goes out of a man when he sleeps'). The word is Arabic.² It is pretty generally agreed by the Patani Malays, who describe the *rôb* as 'that which goes out of a man when he sleeps,' that it is peculiar to men (*orang*), distinguishing them from beasts (*binâtang*). It has in some ways a more distinct personality, if the phrase be permissible, than the *nyawa*, as is proved by the belief that if a person's face be painted while he sleeps, his *rôb* will not recognize him, and he will sleep on until his face is washed. I was told in Patani that boys whose companion falls asleep near the mosque—why near the mosque I do not know—will sometimes paint his face with clay. When the time of his sleep is fulfilled the *rôb* comes back, but when it sees the painted face it says, 'Surely this is not my body!'—I am translating my informant's exact words—and the child does not awake. I was also told of a man who was awakened one night by thirst, and, having no water in the house, made his way to his neighbour's water-jar and drank deeply from it. Then he went back home, leaving his *rôb* in the water, for the *rôb* is apt to leave one who is taking a long drink. Afterwards the neighbour happened to put a cover on the jar, and the man fell down as if dead, for his *rôb* was shut up in the jar. So his family prepared for the funeral, and his body was already in the shroud; but as he lay waiting burial, the neighbour

1. Formerly similar ideas were prevalent in the more civilized west coast States (Skeat, *Malay Magic*, pp. 348-350, London, 1900).

2. Wilkinson, *Malay-English Dictionary*, part i, p. 347, London, 1901.

happened to take off the cover of the jar, and the *rôb* escaped and returned to its owner, who revived immediately. Malays are always unwilling to awake a sleeping person, lest his *rôb* should not have time to come back to him, and it is natural that this disinclination should be most marked in the case of rajas and other important people. I have cause to believe, though I cannot state it as an ascertained fact, that the reason why they are so particular to hold up a hand in front of the face when yawning or sneezing is that they are afraid of the *rôb* escaping, though they may very possibly also fear the entrance of a wandering spirit, and though the action has become, among them as among ourselves, part of the courtesy of daily life. I have not been able to discover any instances of either the *nyâwa* or the *rôb* becoming visible or assuming a corporeal form of any kind.

Semangat. Though the word *semangat* may be of Sanscrit origin, yet the idea it conveys would seem to be more primitive among the Malays than that of the *rôb* or the *nyâwa*, judging from the extensive cultus that has grown up around it. It is true that many individuals, even in the Patani States, confuse these three kinds of soul, and that two *imam* of the district agreed in assuring me that the *rôb*, the *nyâwa*, and the *semangat* were all one, or, at any rate, all went to heaven or hell together after a man's death—always and only to the former in the case of Mahomedans, after they had successfully crossed the traditional narrow bridge over the flaming gulf of hell; though politeness may invent another heaven for the benefit of white men. But among the more ignorant peasants these three—*rôb*, *nyâwa*, and *semangat*—are considered quite distinct, the third in the series being the one with regard to which their ideas are the least indefinite. *Ambil semangat* does not, and cannot mean, 'to kill,' it means to 'steal away the senses,' tō 'bewitch.' That this is the case, not only in the Patani States, but also in other parts of the Peninsula, is clearly shown in a charm headed '*ambil semangat*,' quoted in the original by Mr. SKEAT, to whom we owe the compilation of practically all that is known of the religion of the Malays of the Federated Malay States and the Straits Settlements. In this charm, to translate it quite literally, the person whose *semangat* is to be taken from him is bidden to become 'mad by daylight, mad by night, mad seven times a day, mad seven times by night.' In the Patani States it is commonly said that a man whose *semangat* has been stolen 'does not remember, his speech is uncertain, he does not recognize his father or his mother'; the same phrase being used concerning a person who is *berbantu*, or possessed by evil spirits. In fact, all witchcraft and all devilment

1. Cf. Burmese beliefs regarding the 'butterfly' (*leikpyé*) that goes out of a man when he sleeps. Nisbet, *Burmah under British Rule and Before*, vol. ii, pp. 175-6, London, 1901.

2. Cf. Skeat (*loc. cit.*, p. 336), who describes how the Malays of Langkat cheat the Evil One by daubing a newly born child and its mother with clay. A Semang cure for fever (*auisa*, p. 4) is perhaps analogous.

act on the body through the *semangat*, and it is only when the *semangat* is 'sick' (*sakit*) that evil spirits can enter a man. The *semangat* is made 'sick' by bodily illness, by care or worry, and, above all, by fear, so that spirit and body interact in such a way that it is often impossible to say which is affected first. Herein, according to Malay ideas, lies the superiority of the European over the Oriental—the white man is not affected by spirits, his soul is strong, for, in the words of an intelligent Malay with whom I had many conversations on such matters in the New Territory of Upper Perak, 'no spirit can affect us unless we give it entrance.' To put the matter into every-day language, and at the same time to put it in a way that no Malay peasant would understand, the Oriental is more hysterical than the European. It would almost seem as if the extraction of a man's *semangat* was believed to give room of necessity to some other spirit, which immediately occupied its place; for the Malays of Patani recognize two main divisions of madness, 'burning madness' (*gila bakar*), which is sent by the Lord Allah, is rather a holy state, is quite incurable, and may be diagnosed by the redness of the sufferer's eyes; and 'spirit madness' (*gila bantu*), which is caused by the entrance of a wandering spirit (*bantu*), and can be easily remedied by the use of the proper exorcisms. *Gila bantu* is of many kinds, as *gila babi* or 'pig madness' (*antea*, p. 82), and *gila bodoh*, 'fool madness' or idiocy. It must be noticed in this connexion that the Malays conceive the world to be full of *bantu* or wandering spirits, seeking for a body, into which they cannot enter unless something grants them the power, this something being sickness, or comparative weakness of the body's own individual soul.

Mr. SKEAT, discussing the incantation from which a passage is retranslated above, points out that though it has the appearance of a love charm, it is probably nothing of the kind. In this I agree with him, though it may be doubted whether, as he suggests, it might under any circumstances be used as a love charm. On the beach at Cape Patani, in the State of Jhering, I kicked up from the sand a crumpled piece of the coarse grey paper that the Malays call *kretas arab*. It had certain rough drawings upon it, the meaning of which I did not understand, so I took it to our men who were seated under a tree some yards away. When I showed it them they looked startled, and one of them, a Malay, remarked that some Siamese had done it, and that it was a great sin. After a little pressing they explained that the paper was a charm to steal a person's soul, and that it had probably been buried in the sand by a man whom some woman had repulsed, and who wished to revenge

1. Or perhaps *gila baka*, 'original' or 'natural madness,' on the analogy of *dōsa baka*, 'original sin' (Favre, *loc. cit.*, vol. ii, p. 151). The addition of a final 'r' is not uncommon in the dialect of Patani.

himself on her. If she had trodden on it she would have become mad, and would probably have died. It was impossible that any of them could have buried the charm, as we were merely spending the day on Cape Patani, but they seemed quite concerned about it, and very indignant against the perpetrator. At first sight this also would have appeared to be a love charm, but our Malay and Siamese followers denied that it could possibly be one. The sketch upon it represents a man in royal Siamese attire, with the name of an Arabic prophet (*Nabi*) written on his brow. Lines join his head and his heart, or more precisely his liver, to those of a female figure, representing the woman to be bewitched, and from this it may seem, as there is other evidence to show, that the head and the liver, the seat of the mind and the emotions, are regarded as the special abode of the *semangat*, though I believe that this soul is often conceived of as permeating the whole body, in some indeterminate way, even those parts which are physiologically dead. Perhaps we may see in this idea some explanation of the world-spread superstition that he who has possessed himself of a man's hair, the parings of his finger nails, or even of some object that has been in intimate contact with his body, is enabled, by means of this acquisition, to work magic against him. I hope to reproduce the charm from Cape Patani in facsimile, and describe it more in detail in another part of the present paper.

According to the Jalor *bidan* already mentioned, the *semangat* enters a child at the moment the umbilical cord is severed, and it is interesting to note that iron is never used in performing the operation, for which a special knife of bamboo is made, and that black cotton must be employed in ligaturing the cord. Iron frightens spirits, as will be shown later, and though I am not aware of the symbolical meaning of black cotton, it is probably of a similar nature. The result of infringing either of these rules would be that the baby would be 'affected by fever' or delirium (*kena demam*), caused, it is reasonable to conclude, by the absence of the *semangat*, which would be scared away at the moment it was about to enter the infant. It would seem to follow that the *semangat* is already in existence, only waiting the appointed moment to enter its appointed body; but I have been able to obtain no evidence on this point, though it has been one on which I have questioned many Malays. Their invariable answer, about the *semangat* as about other souls, was that it 'became of itself' (*jadi sendiri*), whence and how it 'became' did not appear to be a question they had ever asked themselves, and when further pressed for an answer, they would fall back upon Islam, saying that 'we are all like frogs under half-cocoanut shells,' 'no one can tell the wonders of Tuan Allah,' or using some such phrase.

Several of those whom I questioned concerning the *semangat* stated that it dies with the body, while others appeared to have no definite idea of it apart from the body, and a few said that it retained the form of the body as a *bantu* or wandering spirit after dissolution. A type of paper kite often flown by the boys of Patani and other parts of the Malay Peninsula is known as the *wā semangat* in the former locality, and is said to represent a 'man without feet' (*orang kurong kaki*). At the present day no religious significance attaches to it, and it is a plaything pure and simple, but it is interesting to notice that the 'man' has no head, but a pointed prolongation of the body in its stead, for this is the form assigned to the ghosts of warriors slain in battle by the natives of Mount Peninjau, in Borneo.¹

So far I have dealt with the human *semangat*. It will be unnecessary to describe the beliefs that centre in the *semangat* of animals at any length; for it will be sufficient to say that every animal, as every human being, has an individual soul of this name which guides and co-ordinates its actions. To entrap his quarry the hunter must deceive its *semangat*, and so render it stupid enough to enter his toils or trap, or come within reach of his gun. As among the Malays of the more civilized States of the Peninsula, this is done by incantations, in which the conjurer boasts of his own might and terrorizes or cajoles the *semangat* of the beast or bird he would entrap.

The *semangat* of trees and plants is of an even less definite character than that of beasts and men. Though large jungle trees are sometimes said to have an individual soul of the kind, the *semangat padi*, or 'rice-soul,' is common to a whole field of rice plants, unless two kinds of rice be growing together as ordinary rice (*Oryza sativa*) and *padi pulut* (*Oryza glutinosa*), in which case each species has its own *semangat*. Mr. SKEAT has described the cultus of the 'rice-soul' with such care that it will be unnecessary to do more than to refer to his work,² as the beliefs surrounding the *semangat padi* in the Federated Malay States only differ in details, such as the time for which the sheaf that represents the soul should be preserved, from those current among the Patani Malays. What is commonly called the *semangat padi*, however (that is, the bunch of rice in which the 'soul' is preserved from one harvest to the next), must not be confused with the 'soul' itself, though it is believed that if this bunch were destroyed, all the grain with which it is stored would be ruined. I am sure that the Patani Malays, at any rate, have no such confusion in their minds, and that '*semangat padi*' is generally used as an abbreviation for '*tempat semangat padi*,' the 'abode of the rice-soul.' As

1. Cf. Ling Roth, *The Natives of Sarawak and British North Borneo*, vol. i, p. 217, London, 1896.

2. *Malay Magic*, pp. 225-226, etc.

very little camphor, gutta, or other jungle produce is collected in the Patani States, other vegetable souls do not often concern the natives.

Passing from vegetable to mineral souls, the latter play but a small part in the popular religion of the Patani Malays, except in certain districts where tin mines are worked by Chinese or Siamese owners. It is believed, however, that each mine has a *semangat*, the *bômor* or 'doctor' of which—one is tempted to call him the 'priest'—is often a Malay. Mine-owners, as we experienced on at least two occasions, do not like strangers to come near their mines, unless the *semangat* or, as it is also called, the *bantu*, has been duly warned; otherwise it might be scared away. In the mine, too, no one must wear shoes, carry an umbrella, or have iron about his person. We were invited to visit a tin mine on the Jalor-Rhaman border by the *Luang Chin*, or head of the Chinese community at Patani, to whom it belonged; but he begged us not to take from the neighbourhood of the mine any animal or bird, and especially not to kill any snake. This had been made a condition of our coming by his *bômor*, who feared, apparently, that the tin spirit might have temporarily taken up its abode in an animal's body, a snake's being the one that there was most probability of its choosing. The result of injuring or insulting the *semangat* would be that the tin ore would disappear.

The *bômor* of this mine was a Rhaman Malay, who had succeeded his father, and was assisted in his ministrations by several apprentice magicians. Once every seven years he presided over a great sacrifice to the tin spirit, living for a month in a little hut at the top of the hill from the side of which the ore was extracted. Whenever the mineral seemed more scanty than usual he sacrificed a white buffalo, a most acceptable offering to all spirits, in order to strengthen the *semangat* of the ore.

As I have noted elsewhere,¹ the *bîbu mas* and the *bîbu perak* ('the mother of gold' and 'the mother of silver') are believed to lie in two earthenware pots, guarded by a monstrous ape, on Gunung Tahan, a great mountain on the borders of Kelantan and Pahang; and I have little doubt that *bîbu* here is but another name for *semangat*, though it has often a more material sense in mineralogy, viz.: 'mother-lode.' At a place called Berusong, in that part of Upper Perak which was separated from Rhaman in 1899, profitable gold mines formerly existed, as it is hoped they may exist again. It is said that a Malay actually captured the *bîbu mas* in this neighbourhood, and that it had

1. *Proc. Roy. Phys. Soc. Edinburgh*, 1900-1901, p. 451.

2. The word *bîbu* means 'parent,' more often 'mother,' in either a literal or a metaphorical sense (e.g., the porcupine is the *bîbu* of its quills and the stag of its horns). Hence it comes to mean living cause or centre. The spider is the *bîbu* of its web; and the young birds, by a stretch of meaning, the *bîbu* of the nest, of which they are the living centre. Hence, again, the meaning is further extended to include 'parasite'; *Hîbu burung* are bird-lice, and tape-worms are called the *bîbu* of the animal they infest.

the form of a kijang or muntjac (*Cervulus muntjac*) which, though alive, was of solid gold. He took it with him in a boat across the river Temongoh, but began during the passage to speculate as to what he would do with his new found wealth. At last he remarked, 'I will go to Mecca and become a *baji* so that all men may reverence me.' As he said these words the *bibu mas* dived into the water and disappeared. The fact that, in some districts, the name of Allah may not be mentioned in a mine, as well as the present story, would seem to show that mineral spirits are more decidedly pagan than many others, and are unwilling to recognize the existence of the new spiritual regime.

Just as the Patani fishermen believe that their boats have souls, so their compatriots on shore believe that every house has a *semangat*, which they regard as the exact equivalent of the *mayor prabu* (*antea*, pp. 80, 81). The *semangat rumah*, or 'house soul,' comes automatically into existence as the various parts of the walls and the roof are fitted together, and preserves the house as an organic whole from dissolution. All those peculiar nocturnal sounds that one hears, even in a European house, often without being able to assign them a cause, are believed in Patani, where the houses are far more noisy at night, to be expressions of the soul of the building. Besides buildings, wooden chests, in which rich Malays sometimes store their finery and treasures, are said to have individual *semangat*, and it is believed that if the soul of such a chest escape, that chest is a 'dead thing' (*barang mati*)—which it was not before—and luck deserts its owner, who will become 'utterly poor.' On one occasion, a man from whom I was desirous of buying some wickerwork shields, now very rare, alleged as a reason for not selling them the danger of the escape of a chest's *semangat* if the lid were opened on a Friday, on which day I happened to enquire about them. Friday, as has been previously noted, is not only the Mahommedan Sabbath, but also the day of the week on which all spirits have additional power.

Badi, or 'Mischief.' The name *badi*¹ also is said by some to be of Hindu extraction, but the idea it conveys to a Malay peasant is probably primitive, though its meaning has undergone a certain evolution in the more civilized districts² of the Peninsula, for, while in Patani, Jalor, or Nawnghchik, *badi* are definite spirits, reckoned like other spirits and like animals by the 'tail' (*ekor*), in the Federated Malay States they appear to be little more than evil influences, devoid of personality. The *badi*, unlike the souls previously described, with none of which it is ever confused, is essentially a bad spirit, and the word is often translated 'mischief'; it is the evil thing in beast or man that

1. Maxwell, *loc. cit.*, p. 34, s.v. *badi*.

2. Wilkinson, *loc. cit.*, p. 78.

remains by the body after death, devouring the *semangat*, or as it is sometimes said, the 'liver' (*bati*),¹ of those who approach. If the body be removed, the *badi* goes with it. Indeed, it is difficult to say exactly how far this soul is believed to exist before death, and to what extent the manner of death causes it to develop. It is certainly regarded as being present in the blood, and as originating from it; but its existence in a living member of any civilized tribe is vague. Its active presence in the personality of a Semang is said in Jalor to be proved by the fact that no one can approach the shelters of this race without being afraid. When a civilized person is murdered or dies in any way considered unnatural, as it is sometimes expressed, if he 'dies of being killed' (*mati di bunob*), his *badi* is of practical moment, for it is then that it becomes a definite malicious ghost. Old Jalor and Patani Malays told me that formerly the corpse of a murdered man was often cast forth to be eaten of vultures and dogs, but now it is more usually buried hastily in the jungle, while in Kuala Bukar there is a part of the cemetery, that furthest from the town, reserved for those who have 'died badly.' If a person is affected by the *badi* of a murdered man the effect is the same as if he was affected by any other spirit, and the *badi* is often called *bantu orang*; it is generally invisible, but resembles the person from whom it is derived.

When we talk (*antea*, p. 8) of the jungle folk of Jalor as being considered by their Malay neighbours as intermediate between beasts and spirits we do not speak at random; not only did their Malay master at Mabek constantly refer to them as 'beasts of the jungle, spirits' (*binatang butan, bantu*), but he told us they were not subject to spirits, being akin to them. We were congratulated in a very marked manner by the Raja of Jalor on obtaining a Semang skeleton, and were told in his village that if a man obtained a jungle-man's bones and rubbed their ashes on his forehead no jungle spirit would molest him, and the jungle-men would consider him one of themselves. The Jalor Malays also believe that there is something peculiar in the position of the sutures of the skull of a Semang, and apparently attach some mystical meaning to the supposed fact, for which we are unable to find any foundation in our specimens.

No domesticated animal possesses a *badi*, even though its wild congener may do so, and not all wild beasts and birds are thus endowed. Among mammals, the deer and the serow (*Nemorboedus*), the chevrotain² or mouse

1. The expression is metaphorical, for it is not believed that if the body of a possessed person were opened the material liver would be absent.

2. In Jalor, the chevrotain is said once to have been a very lazy man. While he slept, instead of working, his mother-in-law applied a bees' nest to his rump, and he ran away into the woods. This explains the presence of certain anal glands in the male.

deer (*Tragulus*), the wild pig, the hunting dog¹ (*Cyon*), and all monkeys² except gibbons, which are reckoned as squirrels (*tupai*), possess an evil spirit of the kind. Of these, that of the deer is the strongest, excepting that of the hunting-dog, a very rare animal; that of the male of a variety of chevrotain known as 'wind chevrotain' (*pelandok angin*) is strong; that of the wild pig small and feeble; and that of monkeys very small indeed. Among birds, only the vulture,³ the stork, the jungle fowl (*Gallus gallus*), and the quail, have a *badi*. Of these, the *badi* of the vulture is so strong that no man may strike the bird; that of the stork is also powerful; that of the jungle fowl even stronger than that of the deer; and that of the quail, according to some, even stronger than that of the jungle fowl. Of reptiles, the following have a *badi*—'white' crocodiles, which are *kramat* (*antea*, p. 77), monitor lizards (*Varanus*), and those snakes which have a white ring round the neck and a pale mark on the back of the neck, and can wink their eyes, the species that can do so being said to be the cobra or hamadryad (*ular selor*) and the 'axe-snakes'⁴ (*ular kapak*). The *badi* of a snake is very powerful, and few men know how to cast it out; that of the 'white' crocodile is also strong, but that of the monitor is so weak that ten 'tail' would not affect a man unless his body was very 'soft.' The Patani Malays deny that any arthropod has a *badi*; but Malacca men have told me that that of the grasshopper is the strongest of all.

If a man is affected by the *badi* of a beast or bird he becomes 'mad,' and either imitates the action of that particular animal or is subject to some abnormal growth resembling one natural to it. Thus, he who is affected by the *badi* of a jungle fowl goes about crowing and flapping his arms against his sides, while feathers may also grow upon his arms. The deer's *badi* causes its victim to rush at people with his head held down as if he had horns, which may, in extreme cases, sprout out from his forehead; or his feet may become cleft like those of a deer. If any of the animals in the above list is killed without the *badi* being cast out, all those present at its death will be affected in varying degree, according as their bodies are 'soft' or the reverse, or their *semangat* weak or strong. The casting out of this evil spirit is, therefore, an

1. The Patani Malays consider it most unlucky to meet this animal, if it barks; if it remains silent, it is lucky. (Cf. Skeat, *loc. cit.*, p. 183).

2. The Jalor Malays say that monkeys were once men, but that the 'prophet Noh' cursed them for their immorality, and a great flood came, and they took refuge in trees—a curious version of the legends of Noah and the Cities of the Plain combined.

3. The Malays of Patani believe that the flies tell the crow about carrion, and the crow tells the vulture; but the Siamese of the same district say that the vulture has gained universal vision by finding a lost letter of the alphabet.

4. Cf. Annandale, *Proc. Roy. Phys. Soc. Edinburgh*, 1900-1901, pp. 457, 458; Laidlaw, *P. Z. S. London*, 1902, p. 581.

important part of the magic in which every master-huntsman must be versed, but the method of casting it out from a mammal is different from that necessary in the case of a bird, or, again, of a reptile; and for this reason it is unusual to find men who make a profession of hunting both jungle fowl and deer, the two commonest objects of the chase—not that it would be impossible for anyone to do so, but it would necessitate him learning two different kinds of magic, an intellectual task that is not often undertaken. The *badi* of monkeys may be neglected, for twenty ‘tail’ would not affect a strong man; and that of a wild pig may be driven forth by burning the body with fire, but to get rid of that of a deer necessitates the use of incantations, in which the spirit, after it has been duly terrorized, is bidden to go forth to the place of its origin, namely, the Great Mango Tree, *Paum Tau Seb Pau Janing*, that grows at the ‘Navel of the Sea’ (*Pusat Laut*), whence the currents of the ocean arise: for all life is believed by the Patani Malays to have come out of the waters. The dead animal, or the animal about to be slain, is usually stroked from the tail to the head with a branch of a tree while the incantation is being recited, but very old medicine-men, whose soul is strong, can draw out the *badi* by placing one of their big toes, a frequent point of entry for spirits, into the animal’s nostril. If the *badi* is thus extracted, the meat tastes better, but only a brave man may undertake this method, for he draws the *badi* into his own body. If the *badi* is not extracted from a deer, the flesh stinks and creeps, and the hair-stands on end. If an animal is to be kept alive in captivity, its *badi* must not be cast out when it is captured, or it will pine and die.

The elephant, the rhinoceros, and the tapir have no *badi*, but their *kuang* is said to be its exact equivalent. The word is probably Siamese, and may have been applied first to the elephant, and then transferred also to the animals most closely allied, for many of the words in the so-called ‘elephant language’ are of Siamese origin,¹ and in the States of Jalor and Legeh the Raja’s ‘elephant doctor,’ who is the head of all the elephant mahouts in his state, is officially called ‘Toh ‘Ku Chang, *chang* being the Siamese for elephant. No mahout dares to approach his elephant while it is sleeping, lest he should be affected by its *kuang*, but calls out to awake it before he comes near. A peculiar form of skin disease, which causes the body to become white in patches, and which is believed in Singapore² to be caused by eating a certain fish, is said in the Patani States to be due to the *kuang* of a tapir, near the dead body of which the sufferer must have unwittingly passed. Probably the superstition originated in the streaked and spotted skin of the young tapir.

1. Denny, *loc. cit.*, pp. 115, 116.

2. Report of the Raffles Museum and Library, Singapore, 1901.

Like the elephant and its allies, the tiger, the leopard, and the smaller jungle cats, all of which are regarded as tigers by the Malays, do not, technically, possess a *badi*, but have in its place a *pegrung* or *begrob*. The word is probably onomatopoeic, but may be Semang; the thing was described to me in Jalor as being 'that which makes a man shut his eyes when a tiger growls.' The same informant remarked, however, as did others, that it was more dangerous when the tiger is silent, and it appears to be that part of the brute which makes it advisable for those who suspect his being near to speak well of the 'grandfather of the woods' (*datob butan*), as the tiger should be named in the jungle, or only to mention him in a whisper.' The *pegrung*—this is the usual form—is naturally more feeble in the case of a leopard or wild cat than in that of the *datob butan*.

The *badi* of animals are sometimes called *bamba Hantu Raya*, slaves of the Great Spirits, who in Jalor are spirits of the jungle, and in Patani of the town. Certain large trees are said in Jalor to have a *badi*, but the peculiarity is rather individual than specific, and what is meant is that the peculiar tree so endowed is haunted by a spirit, which may take the form of a snake. Termite mounds are also occasionally said to have a *badi*, but the belief is not universal and may be Siamese, as this race are said to have a reverence for 'white ants'; we experienced difficulty, on one occasion, in persuading a Jalor Malay to aid us in collecting termites, and he asserted that he was afraid of the *badi besut* or 'termite-mound *badi*.'²

The consideration of ghosts and of spirits unconnected, or connected in a less definite manner, with material bodies, must be postponed for the present.

1. Newbold, *loc. cit.*, vol. ii, p. 193; McNair, *Perak and the Malays*, p. 221, London, 1886. I have experienced the reluctance of a Malay to speak aloud of the tiger, when one was supposed to be near, in Legeh, and have noticed that on the Kelantan River the boatmen, when asked about crocodiles, replied, 'Our crocodiles are good crocodiles, they do not eat men.'

2. For Kelantan Malay superstitions regarding the queen termite see Annandale, *loc. cit.*

CONTRIBUTIONS TO THE PHYSICAL ANTHRO- POLOGY OF THE MALAY PENINSULA

By NELSON ANNANDALE, B.A.

RESEARCH STUDENT IN ANTHROPOLOGY AT THE UNIVERSITY OF EDINBURGH

AND

HERBERT C. ROBINSON

HONORARY RESEARCH ASSISTANT TO THE PROFESSOR OF NATURAL HISTORY, UNIVERSITY COLLEGE, LIVERPOOL

SECTION I

OBSERVATIONS ON THE LIVING PERSON

AS, unfortunately, there appears to be no system of nomenclature which is universally accepted by anthropographers, notwithstanding the 'Frankfurt Agreement,' it will be necessary for us to explain in some detail what we mean by certain terms that we have adopted in the succeeding tables, and it will be well, at the same time, to state the methods by which the results therein embodied were obtained.

Instruments. With the exception of the length and breadth of the head and the 'height' and breadth of the nose, which were obtained by means of instruments manufactured by MATHIEU, of Paris, all measurements were taken with Dr. GARSON's 'Traveller's Anthropometer,' as supplied by Messrs. ASTON & MANDER. We are bound to say that, for field work in a tropical climate, this instrument was not found altogether satisfactory. The joints of the measuring staff gave much trouble by swelling and warping, and the brazed parts not infrequently developed weaknesses particularly inconvenient in an uncivilized country. It seemed to us that strength had been unduly sacrificed to lightness, and the system by which the calliper arms were only supported by metal pins running on grooves cut in their substance, caused endless and quite unnecessary annoyance. For tape measurements, a Chesterman's steel tape, graduated on one side in millimetres and on the other in inches, was employed. For use in humid climates we cannot too strongly urge the necessity of nickel or silver plating on the tape, as rust both obscures the graduation and renders the metal extremely brittle. Even with plating we found that tapes were usually short-lived, and that it was necessary to have several duplicates in stock. The methods adopted in

measuring the living person are those of *Anthropological Notes and Queries*, except when otherwise stated.

Age. With regard to the ages noted in the tables, it must be understood that they are only approximate. Especially among the lower races, it is often impossible to estimate the age of a person, and even among the more civilized tribes we found that few individuals had anything more than a general idea of their own age, as they not infrequently dated their birth from some local event such as 'the year of the great wind.' Occasionally, among the Malays and Siamese, the Siamese cycle was in general use; but the system is too complicated for ready reckoning. In young adults, in whom the third molar was fully erupted on one side or on both, we were accustomed to record the age as ' \pm twenty-five.'

Colour of Skin. This was judged by placing the edge of the plate given in *Anthropological Notes and Queries* against the skin of the inner surface of the upper arm. As the tints given in this plate are very limited in number and in some cases of very doubtful utility, we have been obliged in a great number of instances to record the colour as intermediate between two of them, not always those in a linear series. The nomenclature attached to these tints is quite conventional, but we have been obliged to adopt it for want of a better one. The colour of the eyes is also that of this scale.

Amount of Hair. It should be noted that depilation, both of the face and body, but especially of the former, is practised to a greater or less degree in all the races whom we investigated, and that in many it was impossible to see the pubes.

Character of Hair. The usual classification of this feature appears to us both vague and unsatisfactory, especially when it is applied to a race whose hair is of different character in different individuals. We will, therefore, attempt to explain what we mean by the terms 'wavy,' 'curly,' 'woolly,' and 'frizzly.' By 'wavy' hair we mean that which is not straight but which has a tendency, more or less marked in different individuals, to grow in arcs of a circle of a radius which varies but is never relatively small, these arcs never approaching to a semi-circle. 'Wavy' and 'curly' hair may grow to a considerable length. By 'curly' hair we mean that in which the circles formed are nearly complete, and are almost invariably of smaller radius than is the case in the arcs of 'wavy hair.' 'Woolly' hair is always short and fine, grows in short, distinctly separated coils of small diameter, not exceeding ten millimetres, and is of a springy nature. 'Frizzly' hair is more difficult to define, as it appears to be produced in large measure by artificial treatment applied to hair which only differs from 'woolly' hair in that it is longer, and perhaps

stiffer. When 'frizzly' hair is cut short it can hardly be distinguished from 'woolly.' At present we are only dealing with the macroscopic characters, but we hope to investigate the minute structure in a subsequent number.

Profile of Nose. By a 'negroid' nose we mean one that is short, has a low bridge which may be only faintly indicated, with wide-spreading alae, and with the tip slightly turned down. The development of the bridge may vary considerably. The 'Chinese' approximates to the 'negroid,' but differs from it in that the tip is turned slightly *upwards*, and that the line of the nostrils is more oblique. The 'australoid' type is also very near the 'negroid,' but has the alae even more wide, and possesses a decidedly hooked tip. Where the septum has been artificially distorted, it is difficult to distinguish between a 'negroid' and an 'australoid' nose. No comment is necessary with regard to the other descriptive terms. They have been taken from the *Anthropological Notes and Queries*.

Measurements. In the majority of cases we thought it best to take the head-measurements in triplicate, and to make use of the mean, thus eliminating, as far as possible, accidental errors not inherent to the methods employed. While we were working together we made it our practice to measure our subjects alternately in groups of three, thus avoiding, to some extent, the personal error, which might have been introduced if many individuals had been measured consecutively by either of us. The measurements were recorded by the observer not engaged in measuring at the time. As a rule we had the aid of a native, who gained, as time went on, some knowledge of the positions necessary for the subject operated on. When one of us was working alone, he was obliged to record all measurements as well as to take them, and this often rendered it impossible to procure a complete set of measurements for each subject.

Length of Head. Taken from the glabella to the most prominent point of the occiput.

Nasion to Mouth. The difference between the projection from the vertex to the nasion, and that to the centre of the mouth when the lips are closed.

Mouth to Chin. The difference between the projection last mentioned and the vertical projection of the entire head.

Bigonial Breadth. We think it well to note that this measurement depends to a very large extent indeed upon the development of the jaw muscles rather than that of the skeletal parts, and that we have measured it across these muscles and not at the actual angle of the jaw, as the relative development of the former is an important factor in the contour of the face.

Nasion to Chin. This is a direct measurement, not a projection.

Height of Nose. In deference to the opinion of Sir WILLIAM TURNER, to whose suggestion it is due that the measurements were taken, we have adopted the term 'height of nose' for that measurement which is frequently called the 'length.' It is taken from the nasion to the point where the septum of the nose joins the upper lip.

Body Segments. These measurements, with the exception of the 'malleolar height,' are indirect, being deduced from the total height, height to chin, height to sternal notch, and the sitting and kneeling heights. By 'malleolar height,' we understand the height from the ground of the centre of the internal malleolus. It should be noted that in the case of the 'inter-crural index,' the indirect method by which the length of the various segments of the limbs are obtained, magnifies the initial error of observation, so that the result is only qualitative.

Length of Upper Limb. This is a projection between a point slightly below the acromion and the tip of the middle finger. The length of the cubit is taken when it is flexed on the upper arm, and the length of the hand is the distance between the centre of a line joining the styloid processes and the tip of the middle finger. The length of the upper-arm and fore-arm are deduced from these measurements. This method is that recommended in the '*Anthropological Notes and Queries*,' but certainly gives results that do not represent the true relations between the different parts of the upper limb. A direct height, taken at the elbow, would be far preferable, though the points of measurement would be more difficult to obtain.

Breadth of Shoulders. This is not the breadth at the acromion, but the maximum breadth of the body when the arms are hanging vertically against the sides and the feet pressed together.

Breadth at Hips. This is really the breadth of the body, at the level of the head of the femur. In the case of savages it was taken as a rule on the bare skin; in that of clothed persons we have deducted three millimetres only, as the clothing was always thin, being drawn tight while the measurement was being taken.

Owing to the loss of part of a note-book, schedules containing the measurements of some thirty-five individuals have disappeared. About twenty of these were Malays of Upper Perak, and no record of them remains; the rest were Semangs and Sakais, and in their case the statures and some of the principal indices had been copied out into another part of the book. We have thought it best to put these statures and indices on record, though all details regarding them, except the sex and the fact that the individuals were adult, have been lost.

We have indicated, however, that it is impossible to check these indices by the use of Roman instead of Arabic figures in referring to them.

EXPLANATION OF TABLES

TABLE I. *Descriptive Characters and Head Measurements.* In the case of those measurements that are the result of one or more observations, the figure recorded is the mean taken to the nearest millimetre.

TABLE II. *Body and Limb Measurements—Absolute and Relative.* This table embodies the actual measurements of the bodies and limbs of many of the subjects recorded in Table I, the serial numbers referring to one and the same individual throughout. In the second column devoted to each person, the absolute measurements are reduced to a common standard of stature = 1000. In performing the necessary calculations a 10-inch slide-rule has been employed, and the results are correct to within two parts per mille.

When there is a double measurement, as in the case of the arms and feet, the mean of the two sides of the body has been adopted, as the methods of measurements were not sufficiently rigorous to show, with any degree of accuracy, the real amount of bilateral asymmetry present.

The formulae for the indices given at the bottom of the page are as follows :—

Interbrachial Index	$\frac{\text{Fore Arm}}{\text{Upper Arm}}$	$\times 100.$
Intercrural Index	$\frac{\text{Leg}}{\text{Thigh}}$	$\times 100.$
Intermembral Index	$\frac{\text{Fore Arm} + \text{Upper Arm}}{\text{Leg} + \text{Thigh}}$	$\times 100.$
Hand—Foot	$\frac{\text{Hand}}{\text{Foot}}$	$\times 100.$
Girdle Index	$\frac{\text{Breadth of Hips}}{\text{Breadth of Shoulders}}$	$\times 100.$
Calf Index	$\frac{\text{Minimum supramalleolar circumference}}{\text{Maximum supramalleolar circumference}}$	$\times 100.$

TABLE III. *Cranial, Nasal, and Aural Indices.* The indices have been calculated by the methods used for Table II, and are accurate within the same limits. It is unnecessary to give the formulae for the indices which are in universal use, except, perhaps, that for the biorbito-nasal, which is the ratio between the distance between the external margins of the orbits measured with a tape across the bridge of the nose and the same measured with the callipers.

The other tables explain themselves.

(The immense labour of preparing the tables of measurements and indices in the present and the subsequent parts of this section is due, almost entirely, to my collaborator.—N. A.).

TABLE I
DESCRIPTIVE CHARACTERS AND HEAD MEASUREMENTS (SEMANGS)

	HAMI (JALOR)				SEMÁN (UPPER PERAK)						
Serial Number	1	2	3	4	5	6	7	8	9	10	11
Original Number	1 [S]	2 [S]	3 [S]	4 [S]	9	10	11	12	13	14	15
Name	Raja Jawa	Anga (1)	Labu	Kedah (2)	Sapi (3)	Daun (4)	..	..	Tebu (5)	Bulu (5)	Bunga (5)
Sex	♂	♂	♂	♀	♂	♂	♂	♂	♂	♂	♂
Locality	K. Mabek	K. Mabek	K. Mabek	K. Mabek	Grit	Grit	Grit	Grit	Grit	Grit	Grit
Age	± 25	20	± 25	? 17	± 30	± 25	Adult	Adult	± 25	± 25	± 25
Condition	Medium	Medium to thin	..	Medium to stout	Medium	Medium	..	..	Medium	Medium	Medium
Colour of Skin	Dark olive to red	Dark olive to red	Dark olive	Choc. to dk. olive	Choc. to dk. olive	Choc.	..	..	Choc. to dk. olive	Choc. to dk. olive	Choc. to dk. olive
Do. Eyes	Black to reddish-brown	Black to reddish-brown	Black to reddish-brown	Black to reddish-brown	Reddish-brown	Reddish-brown	..	..	Black	Black	Reddish-Brown
Do. Hair	Black	Black	Black	Black	Black	Black	..	..	Black	Black	Black
Character of Hair	Woolly	Woolly	Woolly	Woolly	Almost woolly	Almost woolly	..	..	Almost woolly	Almost woolly	Almost woolly
Amount of Hair (A) Face	Very scanty	Very scanty	Very scanty	..	Scanty	Scanty	..	..	Absent	Absent	Medium
(B) Body	Very scanty	Very scanty	Very scanty	..	Scanty	Scanty	..	..	Scanty	Scanty	Medium
Shape of Face	Short and broad	Wedge-shaped	Wedge-shaped	Short and broad	Wedge-shaped	Wedge-shaped	..	..	Medium to wedge-shaped	Medium to wedge-shaped	Medium to wedge-shaped
Profile of Nose	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	..	..	Negroid	Negroid	Negroid
Prognathism	Slight	Moderate	Slight	Slight	Absent	Absent	..	..	Slight	Absent	Absent
Lips	Medium	Thick	Medium	Medium to thick	Thick	Thick	..	..	Thick	Thick	Thick
Character of Face	Meso-prosopic	Meso-prosopic	Meso-prosopic	Meso-prosopic	Meso-prosopic	Meso-prosopic	..	..	Meso-prosopic	Meso-prosopic	Meso-prosopic
Head Measurements											
Length	MM.	MM.	MM.	MM.	MM.	MM.	MM.	MM.	MM.	MM.	MM.
Breadth .. .. .	..	..	..	..	140	146	146	137	150	146	143
Projections— Vertex to Chin	217	214	222	217	212	215	..	..	215	207	217
Do. Tragus	126	128	134	129	128	135	..	..	130	132	135
Do. Nasion	115	117	124	121	105	113	..	..	114	107	118
Nasion to Mouth	53	53	60	57	60	60	..	..	63	60	61
Mouth to Chin	49	44	40	39	47	42	..	..	38	40	38
FACE—Bizygomatic Breadth .. ..	..	..	..	..	138	132	..	..	135	134	125
Bigonial Breadth	112	115	113	119	134	127	..	..	130	..	..
External Biorbital	105	112	115	109	112	103	..	..	109	..	..
Do. Biocular	93	97	98	89	98	94	..	..	98	..	..
Internal Biocular	28	36	33	31	30	28	..	..	30	..	..
Biorbito-nasal Arc .. ..	..	..	..	..	136	129	..	..	143	..	..
Superciliary Arc	135	138	143	..	153	152	..	..	155	..	..
Nasion to Chin (direct) .. ..	..	..	..	..	103	105	..	..	104	99	101
NOSE—Height	34	40.5	39.5	38.5	46	43.5	42	39	42	37	41
Breadth	42	39.5	40.5	34.5	46	42	41	42	41	39	36.5
EAR—Length, R	55	57	54	..	..	..	..	..	..	..	..
Do. L	54	57	52	..	..	..	..	..	..	..	..
Breadth, R	31	31	28	..	..	..	..	..	..	..	..
Do. L	32	30	26	..	..	..	..	..	..	..	..

[illegible]

TABLE I (CONTINUED)

SAKAIS

Serial Number	MAI DARAT (S. PERAK)									REMARKS
	31	32	33	34	35	36	37	38	39	
Original Number	1 [S.P.S.]	2 [S.P.S.]	4 [S.P.S.]	5 [S.P.S.]	6 [S.P.S.]	7 [S.P.S.]	8 [S.P.S.]	9 [S.P.S.]	10 [S.P.S.]	(1) Pali-mon is a title, meaning chief of a clan. Looked like a Malay. Plate VIII, fig. 2.
Name	Ching Ai (S)	Pā Lindang (6)	Paitum	Fenwin	Bā Daup	Penghulu Kilat (7)	Rūh Gek	Pā Mang (8)	Hā Ghāt (9)	(2) The most prognathous person seen. Superciliary ridges prominent. Abdomen protuberant. Plate VI, fig. 2, in centre.
Sex	♂	♂	♂	♂	♂	♂	♂	♂	♂	(3) Had a son called Yoh.
Locality	Gedong	Gedong	Gedong	Gedong	Gedong	Gedong	Gedong	Gedong	Bidor	(4) Considerable beard and mustache. Body and limbs covered with firm, painless tumours and open sores. Very emaciated, but able to hunt and obtain food.
Age	± 22	± 25	± 40	± 25	± 22	± 45	± 23	± 25	± 25	(5) Married for two years, one child; muscular development well marked.
Condition	Stout to Medium	Medium to thin	Thin	Medium	Medium	Medium to thin	Medium	Medium	Stout	(6) Married, six children; muscular development well marked.
Colour of Skin	Dk. olive	Dk. olive to red	Choc. to red	Dk. olive to olive	Dk. olive to red	Dk. olive to olive	Red to olive	Dk. olive to olive	Olive to yellowish white	(7) More Malayan in appearance than almost any other man of his tribe whom we met.
Do. Eyes	Black	Black	Black to reddish-brown	Black	Reddish-brown	Reddish-brown	Black	Black	Black	(8) Muscles on the breast especially noticeable.
Do. Hair	Black	Black	Black	Black	Black	Black	Black	Black	Black	(9) This man belonged to a tribe said to live high in the mountains of the Hulu Slim district. We observed that the complexions of the mountain men was usually very much paler than that of others.
Character of Hair	Slightly wavy	Curly	Wavy to curly	Slightly wavy	Wavy	Straight	Curly (frizzled)	Curly (frizzled)	Curly (frizzled)	
Amount of Hair—(A) Face	Absent	Very scanty	Medium	Scanty	Very scanty	Very scanty	Very scanty	Absent	Very scanty	
(B) Body	Very scanty	Very scanty	Scanty	Scanty	Very scanty	Scanty to medium	Very scanty	Very scanty	Very scanty	
Shape of Face	Short and broad, wedge-shaped	Medium, wedge-shaped	Short and broad	Short and broad, wedge-shaped	Short and broad, wedge-shaped	Wedge-shaped	Short and broad, wedge-shaped	Short and broad, wedge-shaped	Wedge shaped	
Profile of Nose	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	
Prognathism	Very slight	Very slight	Absent	Slight	Slight to moderate	Slight to moderate	Very Slight	Absent	Absent	
Lips	Thick	Medium	Thin to Medium	Medium	Medium	Medium to thick	Thick	Medium to thick	Thick	
Character of Face	Meso-prosopic	Meso-prosopic	Platy-prosopic	Platy-prosopic	Meso. to platy-prosopic	Platy-prosopic	Meso. to platy-prosopic	Marked by platy-prosopic	Meso. to platy-prosopic	
Head Measurements										
Length	MM. 184	MM. 170	MM. 178	MM. 193	MM. 183	MM. 177	MM. 180	MM. 176	MM. 179	
Breadth	144	138	140	148	142	145	140	144	146	
Projections—Vertex to Chin	232	199	209	221	219	230	204	217	223	
Do. Tragus	141	126	132	133	131	128	122	125	123	
Do. Nasion	120	97	109	119	118	114	112	114	113	
Nasion to Mouth	67	62	62	63	62	75	59	68	66	
Mouth to Chin	45	40	38	39	39	41	33	35	44	
FACE—Bizygomatic Breadth	147	131	130	142	136	135	133	139	146	
Bigonial Breadth	136	126	121	123	121	125	129	133	130	
External Biorbital	127	115	108	112	108	115	119	120	120	
Do. Biocular	106	93	89	93	91	92	98	95	95	
Internal Biocular	42	33	31	37	33	36	37	35	32	
Biorbito-nasal Arc	147	125	123	128	121	134	138	135	143	
Superciliary Arc	179	146	144	151	141	156	157	156	173	
Nasion to Chin (direct)	116	105	102	108	100	118	100	108	112	
Nose—Height	41	41.8	40.8	46.5	40.0	47.8	41.1	40.5	41.7	
Breadth	45.8	40.0	36.8	41.8	37.2	37.8	40.5	38.7	42.2	
EAR—Length, R	60	60	60	59	54	60	60	60	61	
Do. L	59	59	61	59	55	60	60	59	60	
Breadth, R	33	33	30	31	30	33	30	31	32	
Do. L	33	33	30	31	30	35	31	31	31	

TABLE I (CONTINUED)

SAKAIS

MAI DARAT—Continued

Serial Number	40	41	42	43	44	45	46	47	48	49	50	51
Original Number	11	12	13	14	15	16	17	18	19	20	21	22
Name	[S.P.S.] Chen Loe Loi	[S.P.S.] Teh Doh (1)	[S.P.S.] Pay Yoh (2)	[S.P.S.] Iam (?)	[S.P.S.] Sungkei (4)	[S.P.S.] Beh Balch (5)	[S.P.S.] Chong Gah (6)	[S.P.S.] Bā Kah Koi	[S.P.S.] Pi (7) Gedong	[S.P.S.] Pangkoh (8)	[S.P.S.] Yoh Ken (9)	[S.P.S.] Penghuu Sembon (10)
Sex	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
Locality	Bidor	Bidor	Bidor	Bidor	Bidor	Bidor	Bidor	Telom	Telom	Sungkei	Sungkei	Jeram Kawan
Age	± 23	± 21	± 35	± 46	± 40	± 30	± 15	27	40-50	± 30	± 20	± 25
Condition	Medium	..	Medium	Medium	Medium to thin	Medium to thin	Medium to thin	Medium to thin	Medium	Medium	Medium	Medium
Colour of Skin	Red to olive	Red to olive	Red	Red	Red	Dk. olive to yellowish-white	Dk. olive to olive	Olive to yellowish-white	Olive to yellowish-white	Dk. olive to red	Dk. olive to red	Red to olive
Do. Eyes	Black	Black	Black	Black to reddish-brown	Black	Black	Black	Black	Black	Black	Black	Black
Do. Hair	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Character of Hair	Straight	Curly	Wavy	Wavy to curly, crisp	Wavy, crisp	Wavy	Curly	Straight to wavy	Slightly wavy	Wavy	Wavy to curly	Wavy
Amount of Hair— (A) Face	Very scanty	Very scanty	Medium	Medium	Scanty	Medium	Absent	Very scanty	Scanty	Medium	Very scanty	Scanty
(B) Body	Very scanty	Very scanty	Medium to abundant	Scanty	Very scanty	Very scanty	Absent	Very scanty	Very scanty	Medium	Very scanty	Scanty
Shape of Face	Wedge-shaped	Medium to wedge-shaped	Wedge-shaped	Medium	Wedge-shaped	Long and narrow, pointed at chin	Wedge-shaped	Wedge-shaped	Wedge-shaped	Short and broad	Wedge-shaped	Long and narrow
Profile of Nose	Negroid	Negroid	Straight	Negroid	Straight-sinuous	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid
Prognathism	Absent	Slight	Absent	Moderate	Very slight	Absent	Absent	Well marked	Moderate	Considerable	Medium	Moderate
Lips	Thick	Thick	Medium	Medium	Thin to medium	Medium to thick	Medium to thick	Thick	Thick	Medium	Medium	Medium
Character of Face	Meso, to platyprosopic	Meso, to prosopic	Meso, to platyprosopic	Platyprosopic	Platyprosopic	Platyprosopic	Meso-prosopic	Meso-prosopic	Meso-prosopic	Meso-prosopic	Meso-prosopic	Meso-prosopic
Head Measurements												
Length	MM. 188	MM. 181	MM. 176	MM. 179	MM. 187	MM. 172	MM. 182	MM. 182	MM. 190	MM. 182	MM. 178	MM. 184
Breadth	144	140	144	140	147	130	143	145	145	143	140	143
Projections—												
Vertex to Chin	207	212	214	198	219	212	215	226	229	207	211	229
Do. Tragus	126	129	124	124	128	124	128	136	136	110	118	130
Do. Nasion	102	107	108	101	109	107	111	116	116	100	105	122
Nasion to Mouth	66	61	64	64	69	67	64	67	69	68	60	63
Mouth to Chin	39	44	42	33	41	38	40	43	44	39	46	44
FACE—Bizygomatic Breadth	136	129	135	132	142	125	130	129	138	134	139	135
Bigonial Breadth	126	121	115	112	123	116	127	124	129	121	129	125
External Biorbital	119	114	107	107	113	105	118	113	125	108	109	110
Do. Biocular	95	94	85	87	96	87	93	97	99	84	90	92
Internal Biocular	33	29	31	31	37	31	31	37	38	35	34	36
Biorbito-nasal Arc	141	130	115	118	124	131	133	143	141	124	126	135
Superciliary Arc	165	153	133	139	145	148	152	163	166	139	141	164
Nasion to Chin (direct)	104	101	107	99	110	108	108	109	118	112	104	119
NOSE—Height												
Breadth	45'1	42'2	42'7	48'2	47'3	47'7	43'7	41'5	44'8	Deformed ..	43'5	46'0
EAR—Length, R	40'0	40'0	36'3	40'2	40'0	37'3	36'8	37'3	41'3	..	37'8	39'8
Do. L	56	56	72	62	62	57	58	52	57	..	53	60
Breadth, R	30	30	32	29	30	28	31	29	39	..	30	33
Do. L	31	31	33	29	31	29	31	29	38	..	30	34

TABLE I (CONTINUED)

SAKAIS

MAI DARAT—Continued											REMARKS
Serial Number	52	53	54	55	56	57	58	59	60		
Original Number	23 [S.P.S.]	24 [S.P.S.]	25 [S.P.S.]	26 [S.P.S.]	27 [S.P.S.]	28 [S.P.S.]	29 [S.P.S.]	30 [S.P.S.]	31 [S.P.S.]		
Name	Yoh (12)	Kouton (12)	Sintan (13)	Yoh (14) Dalam	Bâdendu δ	Redam (15)	Bâ Bor (16)	Penghulu Mangol δ (17)	Si Iram (18)		
Sex	δ	δ	δ	δ	δ	δ	δ	δ	δ		
Locality	Jeram Kawan	Jeram Kawan	Jeram Kawan	Jeram Kawan	Jeram Kawan	Jeram Kawan	Jeram Kawan	Paku	Paku		
Age	± 25	+ 50	± 30	± 25	± 30	± 40	+ 35	± 25	± 40		
Condition	Medium	Medium	Medium to thin	Medium	Medium to stout	Stout	Medium	Medium	Medium		
Colour of Skin	Red to olive	Dk. olive	Red	Red	Red	Dk. olive to red	Dk. olive	Dk. olive to red	Dk. olive to red		
Do. Eyes	Black	Black	Black	Black	Black	Black	Black	Black	Black	(1) Married for eight years four children.	
Do. Hair	Black	Black	Black	Black	Black	Black	Black	Black	Black	(2) This man was exceptional in having an abundant growth of hair on the lower parts of his legs; his muscular develop- ment was very pronoun- ced, especially on the breast. Married four years; one child (♀).	
Character of Hair	Curly (frizzled)	Curly	Curly	Straight	Wavy	Straight	Wavy	Slightly wavy	Curly	(3) No children. Darker on the face than the majority. He came from the low country, between the foot hills and the sea.	
Amount of Hair— (A) Face	Scanty	Scanty to Medium	Scanty	Very scanty	Very scanty	Very scanty	Medium	Scanty to medium	Scanty to Medium	(4) Five children (3 ♂, 2 ♀).	
(B) Body	Scanty	Scanty to Medium	Very scanty	Very scanty	Very scanty	Very scanty	Scanty	Very scanty	Very scanty	(5) Married seven years; three children (2 ♂, 1 ♀).	
Shape of Face	Wedge- shaped	Wedge- shaped	Medium	Fairly short and broad	Medium to wedge- shaped	Medium	Medium	Medium to wedge- shaped	Short and broad, pointed at chin	(6) Unmarried; probably rather older than the age given.	
Profile of Nose	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	(7) Father of No. 18, and chief of a small clan liv- ing on the slopes of Gunung Berumban, at an elevation of from 4-7,000 feet.	
Prognathism	Slight	Slight	Moderate	Slight to moderate	Very slight	Slight	Slight	Absent	Very slight	(8) Married; three children (1 ♂, 2 ♀).	
Lips	Medium	Thick	Medium to thick	Medium to thick	Medium	Medium	Thick	Medium	Medium	(9) Married two years; no children.	
Character of Face	Platy- prosopic	Platy- prosopic	Meso- prosopic	Pro- to Meso- prosopic	Meso- prosopic	Meso- to Platy- prosopic	Meso- to Platy- prosopic	Meso- prosopic	Meso- prosopic	(10) Married three years; no children.	
Head Measurements											
Length	MM. 173	MM. 184	MM. 187	MM. 184	MM. 190	MM. 183	MM. 185	MM. 191	MM. 182	(11) Married; no children.	
Breadth	143	146	142	135	151	141	147	143	142	(12) Father of No. 22 and 23; four children (3 ♂, ♀). ♂, ♀ dead.	
Projections— Vertex to Chin	212	212	224	200	215	217	223	206	A 212	(13) Married five years; one child (♂).	
Do. Tragus	135	134	126	126	126	126	126	132	128	(14) Married three years; no children.	
Do. Nasion	116	111	110	101	106	112	109	100	110	(15) Married twice; two chil- dren by one wife; one by the other.	
Nasion to Mouth	59	65	70	55	66	64	80	55	58	(16) Married; four children (2 ♂, 2 ♀).	
Mouth to Chin	37	36	44	44	43	41	34	51	44	(17) Married five years; two children (2 ♂).	
FACE—Bizygomatic Breadth	135	140	135	130	145	143	140	135	128	(18) Married twice; five chil- dren (4 ♀, 1 ♂), three dead.	
Bigonial Breadth	129	129	120	130	135	130	129	117	110		
External Biorbital	111	119	108	106	115	112	113	110	102		
Do. Biocular	92	95	87	91	92	95	93	90	83		
Internal Biocular	32	34	35	37	37	32	28	34	29		
Biorbital-nasal Arc	130	143	122	119	128	136	149	123	123		
Superciliary Arc	156	163	148	144	152	164	171	149	143		
Nasion to Chin (direct)	102	105	113	111	114	111	117	102	96		
NOSE—Height	40.7	48.0	41.3	41.2	50.7	53.3	50.8	39	41.5		
Breadth	40.8	41.8	37.2	42.3	43.3	46.0	40.8	40.8	40.0		
EAR—Length, R	53	62	55	54	63	63	63	Stature	Stature		
Do. L	53	62	56	55	62	66	64	1554	1462		
Breadth, R	27	33	28	28	31	32	32	Span	Span		
Do. L	28	33	29	32 distorted	31	34	33	1028	1480		

TABLE I (CONTINUED)

SAKAIS

Serial Number	MAI DARAT—Continued							ORANG BUKIT (SELANGOR)				
	61	62	63	64	65	66	67	68	69	70	71	72
Original Number	32 [S.P.S.] Ba Norap	33 [S.P.S.] Si Mugat	35 [S.P.S.] Ran Tau	36 [S.P.S.] Nung Kai	3 [S.P.S.] Simut	34 [S.P.S.] Mut Sian	37 [S.P.S.] Si Rusut	1 [S.B.] Pa Siah	2 [S.B.] Kiang	3 [S.B.] Jakub	4 [S.B.] Alang	5 [S.B.] Beut
Name	(1) ♂	(2) ♂	(3) ♂	(4) ♂	(5) ♀	(6) ♀	(7) ♀	♂	♂	♂	♂	♂
Sex	Paku	Paku	Paku	Bidor	Gedong	Paku	Bidor	Labuan-sara ± 50	Labuan-sara ± 25	Labuan-sara ± 20	Labuan-sara ± 25	Labuan-sara ± 30
Locality	± 40	30 +	25	20	18	+ 40 -	+ 30	Medium	Medium	Medium	Medium	Medium
Age	Medium	Medium	Medium	Medium	Medium	Medium to thin	Medium to stout	Medium	Medium	Medium	Medium	Medium
Condition .. ..	..	Dk. olive to olive	Dk. olive to olive	Red	Dk. olive to red	Dk. olive to choc.	Olive	Red to olive	Dk. olive to olive	Red	Dk. olive to olive	Dk. olive to red
Colour of Skin	Do. Eyes	Black	Black	Black	Black to reddish-brown	Black	Black	Black	Black	Black	Black	Black
Do. Hair	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Character of Hair	Wavy	Curly	Curly	Wavy	Wavy	Wavy	Wavy	Wavy	Straight	Wavy	Wavy	Wavy
Amount of Hair	(A) Face	Scanty	Scanty to Medium	Very scanty	Very scanty	..	..	..	Medium	Scanty	Scanty	Scanty
(B) Body	Very scanty	Very scanty	Very scanty	Very scanty	..	..	..	Scanty	Scanty	Scanty	Scanty	Scanty
Shape of Face	Short and Broad	Medium	Wedge-shaped	Wedge-shaped	Medium to wedge-shaped	Wedge-shaped	Short and broad	Wedge-shaped	Wedge-shaped	Short and broad, wedge-shaped	Medium	Medium
Profile of Nose	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Very Negroid	Negroid	Straight-negroid	Negroid	Negroid	Negroid
Prognathism	Absent	Slight	Moderate	Slight to Medium	Moderate	Slight	Moderate	Absent	Absent	Slight	Moderate	Absent
Lips	Medium	Thick	Thick	Thick	Thick	Thick	Thick	Thick	Medium	Medium to thick	Thick	Medium
Character of Face	Meso. to platy-prosopic	Meso. to platy-prosopic	Meso. to platy-prosopic	Meso. to platy-prosopic	Meso-prosopic	Platy-prosopic	Meso. to platy-prosopic	Meso. to platy-prosopic	Platy-prosopic	Platy-prosopic	Meso. to platy-prosopic	Meso-prosopic
Head Measurements												
Length	MM. 178	MM. 184	MM. 170	MM. 180	MM. 174	MM. 178	MM. 184	MM. 172	MM. 188	MM. 186	MM. 182	MM. 182
Breadth	141	140	135	146	137	142	143	147	143	152	134	144
Projections—Vertex to Chin	203	226	188	217	211	217	216	222	227	233	226	221
Do. Tragus	125	126	112	131	130	124	131	127	125	130	121	133
Do. Nasion	97	117	96	106	113	117	120	122	115	121	118	114
Nasion to Mouth	59	67	54	60	59	69	52	67	70	69	72	70
Mouth to Chin	47	42	38	53	39	33	38	33	40	43	36	37
FACE—Bizygomatic Breadth	130	135	128	134	132	137	131	148	143	145	132	135
Bigonial Breadth	123	129	125	121	126	130	128	128	138	133	123	126
External Biobital	103	113	105	105	115	115	112	108	120	117	112	111
Do. Biocular	84	93	88	86	91	95	97	94	103	102	95	89
Internal Biocular	28	31	27	26	35	32	34	38	34	38	35	36
Biobito-nasal Arc	119	136	124	122	122	129	141	..	..	..	..	..
Superciliary Arc	136	155	139	146	148	148	156	..	..	..	..	..
Nasion to Chin (direct)	95	106	97	109	96	104	104	104	109	114	106	108
Nose—Height	37.5	41.3	39.3	45.2	35.0	40.0	37.5	41.5	50	43	43	44
Breadth	36.3	40.7	40.3	41.3	38.0	36.3	43.3	43.0	38	37	39	39.5
EAR—Length, R	Stature	Stature	Stature	Stature	..	Stature	Stature	Stature	Stature	Stature	Stature	Stature
Do. L	1488	1589	1459	1584	..	1462	1388	1562	1570	1546	1562	1559
Breadth, R	Span	Span	Span	Span	..	Span	Span	Span	Span	Span	Span	Span
Do. L	1453	1628	1521	1655	..	1490	1399	1555	1550	1531	1600	1564

TABLE I (CONTINUED)

SAKAIS

	ORANG BUKIT—Continued										REMARKS
Serial Number	73	74	75	76	77	78	79	80	81	(1) Unmarried.	
Original Number	6 [S.B.]	7 [S.B.]	8 [S.B.]	12 [S.B.]	13 [S.B.]	11 [S.B.]	14 [S.B.]	10 [S.B.]	9 [S.B.]	(2) Married four years; two children (♂, ♀).	
Name	Ah Pal	Limau	Hussein	Ahmon	Ah Mit	Damal	Snâ Bah	Indah	Halus	(3) Married seven years; two children (♂, ♀ dead).	
Sex	♂	♂	♂	♂	♂	♀	♀	♀	♀		
Locality	Labuan-sara	Labuan-sara	Labuan-sara	Labuan-sara	Labuan-sara	Labuan-sara	Labuan-sara	Labuan-sara	Labuan-sara	(4) Newly married; the name may possibly be a variant of <i>nungla</i> (Malay), the jack fruit (<i>Artocarpus integrifolia</i>).	
Age	± 35	20	30	+ 25	± 20	± 16	± 24	± 17	..		
Condition	Medium	Medium	..	Medium	Medium	Medium	Medium	..	..
Colour of Skin	Red to yellowish-white	Red to olive	Red to olive	Olive	Red	Red to olive	Olive	Olive to yellowish-white	Dk. olive to red	(5) Wife of No. 21. One child. Breasts very pendulous; areolae very deeply pigmented. Right breast—length, 157 mm.; circumference, 302; child suckled usually on left breast.	
Do. Eyes	Black	Black	Black	Black	Black	Black (brownish tinge)	Black	Black	Black		
Do. Hair	Black	Black	Black	Black	Black	Black	Black (brownish gloss)	Black	Black	(6) Married twice; three children by her first husband.	
Character of Hair	Slightly wavy	Slightly wavy	Very slightly wavy	Straight	Wavy	Wavy	Straight	Straight	Straight		
Amount of Hair— (A) Face	Scanty	Absent	Scanty	Scanty	Scanty	Absent	Absent	Absent	Absent	(7) Widow; married twice; one child. Face painted in red, black, yellow, and white. Cf. Plate X, figs. 2, 3, left hand figure.	
(B) Body	Scanty	Very scanty	Scanty	Scanty	Very scanty	..	..	..	..
Shape of Face	Medium	Short and broad	Wedge-shaped	Short and broad	Short and broad	Short and broad	Short and broad wedge-shaped	Short and broad	Short and broad	(8) Much higher bridge to nose than normal.	
Profile of Nose	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid		
Prognathism	Slight	Very slight	Very slight	Very slight	Slight	Slight	Very slight	Slight	Slight		
Lips	Medium	Medium	Thick	Thick	Rather thick	Medium	Thick	Medium	Medium		
Character of Face	Meso. to platyprosopic	Platyprosopic	Meso. to platyprosopic	Meso. to platyprosopic	Meso. to platyprosopic	Platyprosopic	Platyprosopic	Meso. to platyprosopic	Meso. to platyprosopic		
Head Measurements											
Length	MM. 190	MM. 182	MM. 182	MM. 179	MM. 174	MM. 164	MM. 170	MM. 174	MM. 173		
Breadth	148	136	150	146	144	143	140	138	137	A	
Projections— Vertex to Chin	234	213	224	242	217	221	218	220	211		
Do. Tragus	130	130	136	135	134	129	133	127	119		
Do. Nasion	116	119	115	125	113	126	125	122	120		
Nasion to Mouth	78	64	69	72	64	56	65	58	58		
Mouth to Chin	40	30	40	45	40	39	28	40	33		
FACE—Bizygomatic Breadth	142	132	144	146	143	133	140	135	127		
Bigonal Breadth	133	119	135	138	137	114	121	125	114		
External Biorbital	117	107	111	124	120	112	115	108	105		
Do. Biocular	95	83	95	103	95	97	97	90	89		
Internal Biocular	30	35	33	39	36	34	40	29	33		
Biorbital-nasal Arc .. ..	..	..	..	..	..	..	..	..	..
Superciliary Arc .. ..	..	..	..	..	..	..	..	..	..
Nasion to Chin (direct)	114	105	104	112	113	91	96	90	94		
NOSE—Height	46	42	42	44	46	41.5	37.5	36	39.5		
Breadth	40	38	40	42	37	35	38	35	36		
EAR—Length, R	Stature	Stature	Stature	Stature	Stature	Stature	Stature	Stature	Stature		
Do. L .. ..	..	1462	1557	1690	1593	1404	1380	1380	1422	
Breadth, R	Span	Span	Span	Span	Span	Span	Span	Span	Span		
Do. L .. ..	..	1456	1592	1650	1614	1363	1427	1421	1404	

TABLE I (CONTINUED)
COAST FOLK OF TRANG

SAMSAMS (COAST OF TRANG)											
Serial Number	82	83	84	85	86	87	88	89	90	91	92
Original Number	1 [SS.]	2 [SS.]	3 [SS.]	4 [SS.]	5 [SS.]	6 [SS.]	7 [SS.]	8 [SS.]	9 [SS.]	10 [SS.]	11 [SS.]
Name	CheSalch (2)	Mat Salh	Mat Ma- hammad	Tunku Mat (1)	Mahuin	Maggat (2)	'Che Im (2)	'Che Kim (2)	Sabu	'Che Lung (2)	Na Phi
Sex	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
Locality	B. Pra Muang	B. Pra Muang	B. Pra Muang	B. Pra Muang	B. Pra Muang	B. Pra Muang	B. Pra Muang	B. Pra Muang	B. Pra Muang	B. Pra Muang	P. Teli- bun
Age	27	30	25	± 20	± 30	± 30	± 27	± 50	± 25	± 25	± 40
Condition	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Colour of Skin	Red to olive	Dark olive	Red	Olive	Red to olive	Red	Red to olive	Red to olive	Red to olive	Red to olive	Red
Do. Eyes	Reddish- brown	Black	Reddish- brown	Reddish- brown	Reddish- brown	Reddish- brown	Reddish- brown	Reddish- brown	Black	Reddish- brown	Black
Do. Hair	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Character of Hair	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight
Amount of Hair— (A) Face	Medium	Scanty	Scanty	Absent	Scanty	Medium	Scanty	Medium	Scanty	Absent	Scanty
(B) Body	Scanty	Scanty	Scanty	Scanty	Scanty	Medium	Scanty	Scanty	Scanty	Scanty	Scanty
Shape of Face	Medium	Wedge- shaped	Wedge- shaped	Medium	Long and narrow	Medium	Medium	Medium	Medium	Medium	Medium to wedge- shaped
Profile of Nose	Straight- negroid	Straight- negroid	Straight- negroid	Straight- negroid	Straight- negroid	Straight- negroid	Negroid	Straight- negroid	Straight- negroid	Straight- negroid	Negroid
Prognathism	Absent	Slight	Absent	Absent	Absent	Absent	Moderate	Absent	Absent	Slight	Absent
Lips	Medium	Medium	Medium	Medium	Thick	Thick	Thick	Thick	Medium	Thick	Thick
Character of Face	Meso. to platy- prosopic	Platy- prosopic	Meso. to platy- prosopic	Platy- prosopic	Meso. to platy- prosopic	Meso. to platy- prosopic	Platy- prosopic	Meso. to platy- prosopic	Platy- prosopic	Platy- prosopic	Meso. to platy- prosopic
Head Measurements											
Length	MM. 180	MM. 180	MM. 179	MM. 176	MM. 170	MM. 181	MM. 177	MM. 190	MM. 180	MM. 178	MM. 174
Breadth	151	150	145	158	152	150	150	154	148	150	154
Projections— Vertex to Chin	234	226	220	220	217	236	235	233	216	227	239
Do. Tragus	134	127	132	134	133	138	139	136	123	129	132
Do. Nasion	124	110	123	115	116	125	126	127	111	114	128
Nasion to Mouth	68	70	55	64	78	73	62	70	65	75	64
Mouth to Chin	42	46	42	41	43	38	47	36	40	38	47
FACE—Bizygomatic Breadth	135	135	129	140	131	143	140	145	137	143	146
Bigonial Breadth .. .. .	..	..	..	..	..	..	..	..	..	..	..
External Biorbital .. .. .	..	..	..	..	..	..	..	..	..	..	..
Do. Biocular .. .. .	..	..	..	..	..	..	..	..	..	..	..
Internal Biocular .. .. .	..	..	..	..	..	..	..	..	..	..	..
Biorbito-nasal Arc .. .. .	..	..	..	..	..	..	..	..	..	..	..
Superciliary Arc .. .. .	..	..	..	..	..	..	..	..	..	..	..
Nasion to Chin (direct)	110	105	97	103	121	109	107	100	104	113	107
NOSE—Height	49	47	44.5	44.5	52	49	37	45	43	45	47.5
Breadth	42	44	38.5	38	38	41.5	39	42	35	37.5	44
STATURE	1560	1627	1507	1527	1600	1647	1575	1657	1607	1670	1632

TABLE 1 (CONTINUED)
COAST FOLK OF TRANG

	SAMSAMS—Continued				ORANG LAUT KAPPIR				REMARKS
Serial Number	93	94	95	96	97	98	99	100	(1) Claimed descent from the royal family of Kedah. <i>Tunku</i> (<i>Tuanlu</i>) is the title of those who are of royal blood on both sides of the family.
Original Number	12 [S.S.]	13 [S.S.]	14 [S.S.]	15 [S.S.]	1 [O.L.]	2 [O.L.]	3 [O.L.]	4 [O.L.]	
Name	Oh	Larah	'Brahin	Sonan	Nanka (3)	Lalu	Waki (5)	Elok (4)	
Sex	♂	♂	♂	♂	♂	♂	♂	♂	
Locality	P. Tell-bun	P. Tell-bun	P. Tell-bun	P. Tell-bun	P. Mentia	P. Mentia	P. Mentia	P. Mentia	(2) 'Che (<i>Inche</i>) is probably an hereditary title among the Malays, but it is commonly applied to all persons of any standing who have no other title; very much like the English 'Esquire.'
Age	± 35	± 50	± 55	± 40	± 50	± 25	± 35	± 30	
Condition	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	(3) Father of Nos. 98 & 100.
Colour of Skin	Red	Red	Red	Red to olive	Olive	Olive	Red	Red to olive	
Do. Eyes	Black	Black	Reddish-brown	Reddish-brown	Reddish-brown	Black	Reddish-brown	Black	(4) Unmarried, but both betrothed for nearly two years. Would be married shortly.
Do. Hair	Black	Black	Grizzled	Black	Grizzled	Black	Black	Black	
Character of Hair	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	(5) Widower without children. Face and jaw extraordinarily massive. Quite unlike Nanka's family in appearance.
Amount of Hair— (A) Face	Scanty	Medium	Medium	Absent	Medium	Scanty	Medium	Scanty	
(B) Body	Scanty	Scanty	Scanty	Scanty	Medium	Scanty	Medium	Scanty	
Shape of Face	Medium to wedge-shaped	Medium to wedge-shaped	Medium to wedge-shaped	Medium to wedge-shaped	Medium	Wedge-shaped	Medium to wedge-shaped	Wedge-shaped	
Profile of Nose	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid	
Prognathism	Absent	Absent	Slight	Absent	Slight	Slight	Slight	Slight	
Lips	Thick	Thick	Thick	Medium	Thick	Thick to everted	Thick to everted	Everted	
Character of Face	Meso. to platy-prosopic	Meso. to platy-prosopic	Meso. to platy-prosopic	Platy-prosopic	Meso. to platy-prosopic	Meso. to platy-prosopic	Platy-prosopic	Meso. to platy-prosopic	
Head Measurements									
Length	193	183	182	184	189	182	201	180	
Breadth	150	145	150	155	155	158	153	151	
Projections— Vertex to Chin	233	239	211	217	234	218	222	219	
Do. Tragus	133	136	135	134	132	140	135	133	
Do. Nasion	112	125	102	129	117	113	104	106	
Nasion to Mouth	73	70	74	61	71	65	72	66	
Mouth to Chin	48	44	35	47	46	40	46	47	
FACE—Bizygomatic Breadth	142	135	142	148	138	139	152	135	
Bigonial Breadth .. ..	..	..	..	..	..	..	..	..
External Biobical .. ..	..	..	..	..	..	..	..	..
Do. Biocular .. ..	..	..	..	..	..	..	..	..
Internal Biocular .. ..	..	..	..	..	..	..	..	..
Biobito-nasal Arc .. ..	..	..	..	..	..	..	..	..
Superciliary Arc .. ..	..	..	..	..	..	..	..	..
Nasion to Chin (<i>direct</i>)	113	114	108	108	123	105	115	110	
NOSE—Height	43	47	49	48.5	52	44	46	..	
Breadth	40	36	39	44	43	37	42	..	
STATURE	1637	1537	1597	1652	1624	1523	1612	1562	

TABLE I (CONTINUED)

PERAK MALAYS

PERAK MALAYS											
Serial Number	101	102	103	104	105	106	107	108	109	110	111
Original Number	1 [B.]	2 [B.]	3 [B.]	4 [B.]	5 [B.]	6 [B.]	7 [B.]	8 [B.]	9 [B.]	10 [B.]	11 [B.]
Name	Buntei	Panda	Kulap	Hadji	Yunus	Mat	Yakup	Achmat	Spangam	Chuk	Kulap
Sex	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
Locality	Gedong	Gedong	Gedong	Bidor	Bidor	Bidor	Bidor	Bidor	Bidor	Bidor	Bidor
Age	± 27	± 27	25	30	33	30	33-34	25	27	30	25-30
Condition	Medium to thin	Medium to thin	Very thin	Medium	Medium	Medium	Stout to medium	Medium	Stout to medium	Medium	Medium
Colour of Skin	Dark olive to red	Red	Red	Dark olive	Red to olive	Olive to yellowish white	Red to olive	Red	Dk. olive to red	Red	Dk. olive to olive
Do. Eyes	Black	Black	Black to reddish-brown	Black	Black	Black	Black	Reddish-brown	Black	Reddish-brown	Black
Do. Hair	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Character of Hair	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight
Amount of Hair— (A) Face	Medium	Very scanty	Very scanty	Very scanty	Scanty	Very scanty	Scanty	Very scanty	Very scanty	Medium to scanty	Medium
(B) Body	Medium	Very scanty	Very scanty	Very scanty	Scanty	Very scanty	Very scanty	Very scanty	Very scanty	Scanty	Scanty
Shape of Face	Medium	Medium to short and broad	Medium	Wedge-shaped	Long and narrow, wedge-shaped	Wedge-shaped	Medium to wedge-shaped	Medium to wedge-shaped	Short and broad, wedge-shaped	Medium	Medium
Profile of Nose	Negroid	Negroid	Negroid	Straight-negroid	Sinus-negroid	Straight	Negroid	Negroid	Negroid	Sinus-Chinese Slight	Aquiline
Prognathism	Slight to moderate	Absent	Moderate to considerable	Absent	Absent	Very slight	Absent	Slight	Very slight	Slight	Moderate to considerable
Lips	Medium	Medium	Medium	Medium	Thick	Thick	Thick	Thick	Medium to thick	Thick	Thick
Character of Face	Platy-prosopic	Meso. to platy-prosopic	Platy-prosopic	Platy-prosopic	Platy-prosopic	Meso-prosopic	Meso. to platy-prosopic	Meso. to platy-prosopic	Meso-prosopic	Meso-prosopic	Meso-prosopic
Head Measurements											
Length	MM. 178	MM. 176	MM. 171	MM. 181	MM. 180	MM. 173	MM. 188	MM. 181	MM. 175	MM. 188	MM. 182
Breadth	147	141	142	146	148	146	146	148	146	150	146
Projections	232	208	207	209	246	208	226	218	214	221	231
Vertex to Chin	137	130	128	132	132	120	128	127	119	128	133
Do. Tragus	110	109	115	98	109	103	111	104	116	109	119
Do. Nasion	73	63	56	69	85	66	70	68	67	73	66
Nasion to Mouth	49	36	36	42	52	39	45	46	37	39	46
Mouth to Chin	137	136	130	131	141	132	133	134	138	134	136
FACE—Bizygomatic Breadth	127	122	117	121	129	120	119	124	124	119	126
Bigonial Breadth	113	110	107	111	122	110	104	109	110	103	107
External Biorbital	Do. Biocular	93	92	89	84	95	88	86	91	93	88
Internal Biocular	33	31	32	30	36	30	28	32	32	31	33
Biorbital-nasal Arc	120	115	112	110	150	134	121	121	121	122	127
Superciliary Arc	138	134	132	133	177	156	142	141	142	141	157
Nasion to Chin (direct)	124	109	97	107	139	111	113	107	106	119	114
NOSE—Height	46.5	43.3	41.3	44.5	52.5	50.2	46.8	44.8	44.3	52.2	47.0
Breadth	39.2	34.8	37.5	37.0	37.5	38.0	36.8	36.8	34.3	37.2	40.3
EAR—Length, R	57	60	59	52	65	60	58	60	57	59	67
Do. L	58	60	60	52	64	60	58	59	56	59	67
Breadth, R	34	32	30	33	35	33	26	27	30	30	31
Do. L	34	34	30	32	33	32	26	26	30	31	32

TABLE I (CONTINUED)
PERAK MALAYS

PERAK MALAYS—Continued										REMARKS
Serial Number	112	113	114	115	116	117	118	119		(1) Has been married twice (one wife divorced); one child.
Original Number	12 [B.]	13 [B.]	14 [B.]	15 [B.]	16 [B.]	17 [B.]	18 [B.]	19 [B.]		
Name	Doh (12)	Kulap (13)	Itam (14)	Alang (15)	Kulap (16)	Achmat	Mat Idin (17)	Alang (18)		(2) One wife, one child.
Sex	♂	♂	♂	♂	♂	♂	♂	♂		(3) Unmarried; brother of No. 101.
Locality	Bidor	Bidor	Bidor	Bidor	Bidor	Bidor	Bidor	Bidor		(4) Married eight years; one wife, two children (♂)
Age	30	+ 45	30-35	25	± 25	22	± 30	± 40		(5) Married; no children.
Condition	Stout to Medium	Thin	Medium to thin	Medium	Medium	Thin	Medium	Medium		(6) Unmarried.
Colour of Skin	Dk. olive to red	Dk. olive	Dk. olive	Dk. olive to olive	Dk. olive to red	Olive to Red	Dk. olive to olive	Dk. olive to red		(7) Married five years; three children (2 ♂, 1 ♀).
Do. Eyes	Black	Reddish-brown	Black	Black	Reddish-brown	Black	Black	Black		(8) Married; no children.
Do. Hair	Black	Black	Black	Black	Black	Black	Black	Black		(9) Unmarried.
Character of Hair	Straight	Straight	Slightly wavy	Straight	Straight	Straight	Straight	Straight		(10) Married three years; no children.
Amount of Hair— (A) Face	Scanty	Medium	Scanty to medium	Absent	Very scanty	Very scanty	Very scanty	Medium		(11) Superciliary ridges very conspicuous; married five years; no children.
(B) Body	Scanty	Scanty	Scanty	Very scanty	Very scanty	Very scanty	Very scanty	Very scanty		(12) Suffering from varicose veins; married one year; no children.
Shape of Face	Medium to wedge-shaped	Medium to wedge-shaped	Long and narrow-medium	Wedge-shaped	Medium	Short and broad	Wedge-shaped	Medium		(13) Married; one child (dead)
Profile of Nose	Straight-Aquiline	Straight-negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid		(14) Married ten years; three children.
Prognathism	Very slight	Absent	Very slight	Moderate	Absent	Absent	Absent	Very slight		(15) Unmarried.
Lips	Medium to thick	Thin	Thick	Thick	Medium	Medium to thick	Thick	Medium		(16) Unmarried.
Character of Face	Meso-prosopic	Meso-prosopic	Meso. to platy-prosopic	Meso-prosopic	Meso. to platy-prosopic	Meso. to platy-prosopic	Meso-prosopic	Meso-prosopic		(17) Married; no children.
Head Measurements										(18) Married about twenty years; one wife, four children (3 ♂, 1 ♀)
Length	MM. 189	MM. 194	MM. 184	MM. 187	MM. 180	MM. 186	MM. 180	MM. 178		
Breadth	149	156	148	147	150	154	154	146		
Projections— Vertex to Chin	226	231	239	237	222	222	239	215		
Do. Tragus	134	143	128	142	137	138	139	130		
Do. Nasion	105	117	125	130	115	114	124	112		
Nasion to Mouth	72	72	73	65	67	65	70	65		
Mouth to Chin	49	43	41	42	40	43	45	38		
FACE—Biszygomatic Breadth ..	144	141	136	141	140	140	141	137		
Bigonial Breadth	127	133	123	134	130	131	131	123		
External Biorbital	112	125	119	124	113	119	127	117		
Do. Biocular	95	94	96	99	91	100	93	93		
Internal Biocular	32	37	30	37	35	33	32	33		
Biorbito-nasal Arc	132	147	133	145	127	138	147	145		
Superciliary Arc	156	177	163	164	147	158	174	170		
Nasion to Chin (direct)	121	114	121	120	115	115	117	108		
NOSE—Height	50.3	49.7	46.8	47.8	47.3	48.2	48.8	49.0		
Breadth	39.0	39.8	37.1	37.7	41.2	40.0	40.7	40.5		
EAR—Length, R	63	70	65	58	64	73	65	58		
Do. L	66	68	65	60	62	75	66	59		
Breadth, R	34	38	38	33	35	28	34	34		
Do. L	35	34	33	34	35	30	35	33		

TABLE I (CONTINUED)
PERAK MALAYS

PERAK MALAYS—Continued												
Serial Number	120	121	122	123	124	125	126	127	128	129	130	
Original Number	20 [B.]	21 [B.]	22 [B.]	23 [B.]	24 [B.]	25 [B.]	26 [B.]	27 [B.]	28 [B.]	29 [B.]	30 [B.]	
Name	Itam (1) Gundah	Ibrahim (2)	Itam (3) Ibrahim	Hadji Abdul Rahman δ (4)	Dôlah (5)	Mat Sidi (6)	Alang (6)	Daud (7)	Bakal (6)	Daud (8)	Kassim (9)	
Sex	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	
Locality	Bidor	Sungkei	Sungkei	Sungkei	Sungkei	Sungkei	Sungkei	Sungkei	Sungkei	Sungkei	Sungkei	
Age	+ 40	30	40	+ 40	± 30	± 30	± 25	- 30	± 25	25	45	
Condition	Medium to thin	Medium	Stout to medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	
Colour of Skin	Dk. olive to red	Red	Red to olive	Dk. olive to red	Red	Red to olive	Dk. olive to red	Dk. olive to olive	Dk. olive to red	Dk. olive to olive	Red	
Do. Eyes	Black	Reddish- brown	Black	Reddish- brown	Black	Black	Reddish- brown	Black	Black	Black	Black	
Do. Hair	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	
Character of Hair	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	
Amount of Hair— (A) Face	Medium- abundant	Medium	Scanty to medium	Very scanty	Very scanty	Very scanty	Very scanty	Very scanty	Very scanty	Very scanty	Medium	
(B) Body	Very scanty	Medium	Very scanty	Very scanty	Very scanty	Very scanty	Very scanty	Very scanty	Very scanty	Very scanty	Scanty	
Shape of Face	Long and narrow	Long and narrow- medium	Short and broad	Medium	Wedge- shaped	Long and narrow	Long and narrow	Short and broad	Medium	Medium	Medium	
Profile of Nose	Negroid	Negroid	Negroid	Negroid to Aus- traloid	Negroid	Negroid	Negroid	Straight- negroid	Negroid	Negroid	Negroid	
Prognathism	Absent	Absent	Slight to moderate	Absent	Very slight	Very slight	Very slight	Absent	Absent	Very slight	Absent	
Lips	Medium	Medium	Thick	Medium	Thick	Very thick	Thick	Thick	Medium	Medium	Medium	
Character of Face	Meso- prosopic	Pro. to Meso- prosopic	Meso- prosopic	Meso- prosopic	Meso. to platy- prosopic	Meso. to platy- prosopic	Meso. to platy- prosopic	Platy- prosopic	Meso. to platy- prosopic	Meso. to platy- prosopic	Meso- prosopic	
Head Measurements												
Length	MM. 177	MM. 176	MM. 193	MM. 170	MM. 183	MM. 194	MM. 193	MM. 183	MM. 182	MM. 176	MM. 177	
Breadth	148	146	156	146	162	152	148	154	154	160	154	
Projections Vertex to Chin	231	226	215	191	241	249	233	238	233	227	221	
Do. Tragus	136	136	136	122	143	146	133	144	141	136	135	
Do. Nasion	128	114	103	95	125	127	117	120	117	115	114	
Nasion to Mouth	62	70	70	55	72	77	74	73	73	59	61	
Mouth to Chin	41	42	42	41	44	45	42	45	43	52	46	
FACE—Bizygomatic Breadth ..	131	131	150	120	148	135	135	148	145	146	142	
Bigonial Breadth	118	118	136	116	140	128	127	141	136	132	125	
External Biorbital	116	102	118	99	131	124	122	130	127	127	114	
Do. Biocular	92	85	95	76	106	98	95	100	102	102	89	
Internal Biocular	32	30	36	25	38	37	34	41	38	38	34	
Biorbito-nasal Arc	141	115	134	111	157	148	144	149	146	140	126	
Superciliary Arc	165	133	152	129	178	174	170	173	171	162	149	
Nasion to Chin (direct) ..	113	112	118	96	124	126	124	127	121	121	113	
NOSE—Height	45.8	47.5	49.5	43.5	46.5	46.0	51.5	47.3	46.5	49.0	45.7	
Breadth	40.0	36.0	42.3	33.7	37.7	37.3	37.5	37.5	36.5	37.8	40.0	
EAR—Length, R	54	57	70	55	62	67	68	66	64	63	66	
Do. L	55	56	70	55	63	67	67	66	65	62	67	
Breadth, R	33	26	28	24	40	37	33	37	35	34	28	
Do. L	34	27	28	25	38	37	34	36	36	33	36	

TABLE I (CONTINUED)
PERAK MALAYS

PERAK MALAYS—Continued									REMARKS
Serial Number	131	132	133	134	135	136	137		(1) Married about twenty years; one wife, three children (1 ♂, 2 ♀).
Original Number	31 [B.]	32 [B.]	33 [B.]	34 [B.]	35 [B.]	36 [B.]	37 [B.]		
Name	Alang Bahlm (10)	Alang Ratu (11)	Mat (6)	Seydi (6)	Dris (12)	Suman (6)	Dólah (13)		(2) Married seven years; one wife, two children (♂).
Sex	♂	♂	♂	♂	♂	♂	♂		(3) Married fifteen years; one wife, four children (♀). Little toe on both feet reduplicated.
Locality	Sungkei	Sungkei	Sungkei	Sungkei	Sungkei	Sungkei	Sungkei		
Age	47	36	± 25	30	40	25	42		(4) Has had two wives and three children by one of them, of whom one is dead. Only 1232 mm. (cf. Table II) in stature.
Condition	Medium	Medium	Medium	Medium	Medium	Medium to thin	Medium		
Colour of Skin	Dk. olive to red	Red to olive	Red to olive	Choc. to dk. olive	Dk. olive to olive	Red to olive	Olive		(5) Married seven or eight years; two children (♂, ♀).
Do. Eyes	Black	Black	Black	Black	Black	Reddish-brown	Black		(6) Unmarried. No. 125 brother of No. 126.
Do. Hair	Black	Black	Black	Black	Black	Black	Black		
Character of Hair	Straight	Straight	Straight	Curly	Straight	Straight	Straight		(7) Married two or three years; no children.
Amount of Hair— (A) Face	Medium	Scanty to medium	Medium	Very scanty	Medium	Scanty	Abundant		(8) Married four years; one child (♀).
(B) Body	Very scanty	Very scanty	Scanty	Very scanty	Scanty	Scanty	Medium		(9) Married eight years; two children (♂, ♀).
Shape of Face	Medium to wedge-shaped	Medium to wedge-shaped	Medium	Long and narrow	Wedge-shaped	Medium	Medium		(10) Married nine years; three children (2 ♂, 1 ♀).
Profile of Nose	Straight-negroid	Negroid	Negroid	Negroid	Negroid	Negroid	Negroid		(11) Married three years; two children (♂).
Prognathism	Absent	Very slight	Absent	Absent	Slight	Absent	Absent		(12) Married ten years; three children (1 ♂, 2 ♀).
Lips	Thick	Thick	Thick	Thick	Thick	Medium	Medium		(13) Married six times; no children.
Character of Face	Meso-prosopic	Meso-prosopic	Meso-prosopic	Meso-prosopic	Platy-prosopic	Meso. to platy-prosopic	Platy-prosopic		
Head Measurements									
Length	MM. 198	MM. 174	MM. 181	MM. 177	MM. 182	MM. 178	MM. 176		
Breadth	151	146	151	146	148	144	153		
Projections— Vertex to Chin	232	212	234	236	223	210	226		
Do. Tragus	143	129	140	137	142	129	138		
Do. Nasion	116	95	121	121	113	104	108		
Nasion to Mouth	65	69	67	72	69	68	73		
Mouth to Chin	51	48	46	43	41	38	45		
FACE—Bizygomatic Breadth ..	149	139	136	140	137	135	145		
Bigonial Breadth	126	123	125	128	129	126	131		
External Biorbital	120	113	112	114	111	110	114		
Do. Biocular	96	91	89	93	90	88	92		
Internal Biocular	37	34	30	31	30	29	30		
Biorbito-nasal Arc	138	127	133	133	138	135	142		
Superciliary Arc	173	153	149	159	169	154	160		
Nasion to Chin (direct) ..	125	116	116	120	111	107	118		
NOSE—Height	470	457	485	497	493	470	520		
Breadth	375	393	377	432	437	380	40		
EAR—Length, R	67	61	61	60	55	54	65		
Do. L	67	60	62	60	55	54	65		
Breadth, R	32	31	30	31	31	33	33		
Do. L	32	31	32	31	31	32	32		

TABLE II
BODY AND LIMB MEASUREMENTS (SEMANGS)

Serial Number	HAMI (JALOR)								SEMÁN (UPPER PERAK)			
	1		2		3		4		5		6	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Stature	1482	1000	1519	1000	1511	1000	1476	1000	1541	1000	1551	1000
Span	1466	989	1542	1008	1551	1006	1455	986	1515	983	1545	996
Sitting Height	799	539	814	532	807	534	..	..	777	504	817	527
Kneeling „	1089	735	1144	748	1126	745	1102	747	1159	752	1161	749
Umbilical „	861	580	898	587	886	586	849	575	907	588	902	580
BODY SEGMENTS												
Head	226	153	217	142	232	153	207	140	217	141	222	143
Neck	62	42	75	49	57	38	48	33	73	47	61	39
Trunk	511	345	522	341	518	343	..	..	487	316	534	344
Thigh	290	196	330	216	319	211	..	..	382	248	344	222
Leg	343	212	311	203	321	212	..	..	301	195	316	204
Malleolar Height	70	47	74	48	64	42	..	..	81	53	74	48
Length of Lower Limb.. ..	683	461	715	468	704	466	..	..	764	496	734	474
„ Upper Limb, R	621	420	670	438	671	444	626	424	638	414	657	425
„ „ L	624	420	671	438	670	444	625	424	637	414	660	425
„ Upper Arm, R	209	142	236	153	236	158	220	149	238	153	237	153
„ „ L	211	142	234	153	236	158	222	149	234	153	238	153
„ Forearm, R	235	160	262	171	258	170	230	155	230	150	247	161
„ „ L	238	160	262	171	256	170	227	155	232	150	252	161
„ Hand, R	177	119	172	114	177	117	176	119	170	110	171	110
„ „ L	175	119	175	114	178	117	176	119	170	110	170	110
„ Foot, R	223	153	227	147	249	164	..	..	227	148	235	150
„ „ L	229	153	224	147	247	164	..	..	228	148	230	150
Breadth at Shoulders	374	251	367	240	374	248	..	..	390	253	377	243
„ Hips	270	182	265	173	262	173	..	..	267	173	266	171
Girth of Chest—At Rest	792	534	792	518	817	541	..	..	873	567	770	496
„ Expanded	825	557	825	540	848	561	..	..	898	583	820	528
„ Deflated	772	521	765	500	794	525	..	..	832	540	750	484
Circumference of Leg— Maximum Supramalleolar												
„ R	295	199	265	171	275	185	..	..	227	147	..	..
„ L	294	199	257	171	285	185	..	..	225	147	300	193
Minimum Supramalleolar												
„ R	171	112	172	114	169	113	..	..	195	127	..	126
„ L	177	112	168	114	172	113	..	..	195	127	195	126
INDICES												
Interbrachial	112'6		111'5		109'2		104'2		98'0		100'5	
Intercrural	112'2		94'0		100'6		..		79'8 (?)		91'9	
Intermembral	72'9		77'5		77'0		..		68'5		72'9	
Hand: foot	77'9		76'9		71'6		..		74'8		73'2	
Girdle	72'6		72'2		70'9		..		68'4		70'6	
Calf	59'0		63'9		61'9		..		85'4 (?)		65'2	

TABLE II (CONTINUED)
SEMANGS

Serial Number	SEMAN (UPPER PERAK)											
	9		10		11		12		13		14	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Stature	1490	1000	1552	1000	1472	1000	1552	1000	1522	1000	1527	1000
Span	1515	1017	1538	991	1478	1004	1571	1012	1533	1006	1552	1016
Sitting Height	779	523	827	533	779	529	797	512	807	529	777	508
Kneeling "	1117	750	1159	747	1117	759	1138	744	1137	742	1107	729
Umbilical "	867	582	935	602	875	594	902	582	927	609	..	..
BODY SEGMENTS												
Head	217	146	215	138	220	149	225	144	217	143	210	138
Neck	50	34	70	45	80	54	60	39	50	33	64	35
Trunk	512	344	542	349	479	325	512	334	540	355	511	336
Thigh	338	227	312	214	338	229	361	232	330	216	330	216
Leg	297	199	321	207	280	190	320	206	312	205	347	227
Malleolar Height	76	51	72	46	75	51	74	48	73	48	73	48
Length of Lower Limb.. ..	711	477	725	467	693	470	755	487	715	469	750	488
" Upper Limb, R	637	429	660	424	647	438	685	442	671	440	677	442
" L	642	429	655	424	642	438	688	442	670	440	670	442
" Upper Arm, R	225	153	240	153	233	158	257	166	261	171	252	161
" L	231	153	235	153	231	158	256	166	260	171	240	161
" Forearm, R	233	157	232	150	236	159	238	154	228	151	241	159
" L	236	157	235	150	232	159	240	154	232	151	246	159
" Hand, R	179	128	188	120	178	122	190	123	182	118	184	126
" L	175	128	185	120	180	122	192	123	178	114	184	126
" Foot, R	225	152	236	153	217	148	235	154	230	150	230	150
" L	228	152	238	153	220	148	242	154	226	150	..	..
Breadth at Shoulders	380	255	356	229	..	..	392	253	370	242	..	..
" Hips	280	188	280	180	..	..	290	187	272	179	..	..
Girth of Chest—At Rest	825	554	770	496	775	526	..	..	..	..	..	..
Expanded	850	570	791	510	800	543	..	..	..	..	..	..
Deflated	800	536	750	483	740	503	..	..	..	..	..	..
Circumference of Leg— Maximum Supramalleolar	..	..	272	176	280	191	..	..	..	..	..	..
R .. ..	..	..	272	176	280	191	..	..	..	..	..	..
L	330	221	275	176	282	191	..	..	..	..	..	..
Minimum Supramalleolar	..	..	185	128	167	115	..	..	..	..	..	..
R .. ..	..	..	185	128	167	115	..	..	..	..	..	..
L	190	127	182	128	172	115	..	..	..	..	..	..
INDICES												
Interbrachial	100'8	..	98'3	..	100'5	..	93'3	..	88'3	..	99'0	..
Intercrural	87'9	..	96'6	..	82'8	..	88'6	..	94'3	..	105'1	..
Intermembral	72'8	..	72'2	..	75'3	..	72'7	..	76'2	..	72'4	..
Hand: foot	76'6	..	77'4	..	79'9	..	79'9	..	79'0	..	79'2	..
Girdle	73'6	..	78'4	..	..	..	74'2	..	72'5	..	..	..
Calf	57'6	..	66'9	..	60'4	..	..	..	..	..	..	..

FASCICULI MALAYENSES

TABLE II (CONTINUED)

SEMANGS—SAKAIS

Serial Number	SEMAN—Continued								PO-KLO	
	15		16		18		19		20	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Stature	1547	1000	1539	1000	1427	1000	1453	1000	1550	1000
Span	1577	1020	1560	1014	1425	998	1536	1056	1559	1006
Sitting Height	794	512	775	504	749	524	752	519	..	..
Kneeling „	1157	748	1142	743	1062	748	1107	752	..	..
Umbilical „ .. ..	..	..	..	..	..	..	..	..	..	..
BODY SEGMENTS										
Head	208	134	207	135	215	150	191	132	..	..
Neck	72	46	59	38	60	42	65	45	..	..
Trunk	514	332	509	331	474	332	496	343	..	..
Thigh	363	234	367	240	313	229	355	245	..	..
Leg	315	204	315	205	290	204	276	191	..	..
Malleolar Height	75	48	72	47	75	53	70	48	..	..
Length of Lower Limb	753	486	764	496	678	475	701	484	..	..
„ Upper Limb, R	686	..	680	..	615	..	655	..	676	..
„ „ L	688	444	677	441	609	430	652	450	667	435
„ Upper Arm, R	256	..	255	..	223	..	242	..	264	..
„ „ L	263	167	255	166	217	154	242	167	259	170
„ Forearm, R	253	..	245	..	218	..	229	..	222	..
„ „ L	247	162	239	158	216	152	227	157	222	143
„ Hand, R	177	..	180	..	174	..	185	..	190	..
„ „ L	178	115	181	118	176	122	183	127	191	123
„ Foot, R	231	..	233	..	216	..	225	..	237	..
„ „ L	238	152	236	153	216	152	222	154	238	154

ADDITIONAL SEMAN MEASUREMENTS

Serial Number	Stature	Stature 1000	Span	Stature 1000	Inter- brachial Index	Inter- crural Index
I ..	1491	1000	1496	1003	95'6	82'9
II ..	1547	1000	1549	1001	101'4	95'6
III ..	1587	1000	1512	953	96'2	95'0
IV ..	1372	1000	1384	1009	100'0	91'7
V ..	1477	1000	1416	959	98'0	85'4
VI ..	1602	1000	1570	980	98'2	80'2
VII ..	1604	1000	1530	954	101'0	92'1

INDICES

Interbrachial	96'4	94'9	94'4	94'3	84'4
Intercrural	86'8	84'9	92'6	77'9 (?)	..
Intermembral	74'0	72'8	72'6	74'4	..
Hand : foot	76'0	77'4	80'0	80'6	79'9
Girdle .. ..	..	..	..	..	..
Calf .. ..	..	..	..	..	..

TABLE II (CONTINUED)

SAKAIS

Serial Number	PO-KLO—Continued									
	21		22		23		24		25	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Stature	1568	1000	1544	1000	1565	1000	1477	1000	1574	1000
Span	1571	1000	1522	987	1572	1004	1445	977	1555	987
Sitting Height .. ..	..	..	..	..	..	..	..	..	..	..
Kneeling „ .. ..	..	..	..	..	..	..	..	..	..	..
Umbilical „ .. ..	..	..	..	..	..	..	..	..	..	..
BODY SEGMENTS										
Head .. ..	..	..	..	..	..	..	..	..	..	..
Neck .. ..	..	..	..	..	..	..	..	..	..	..
Trunk .. ..	..	..	..	..	..	..	..	..	..	..
Thigh .. ..	..	..	..	..	..	..	..	..	..	..
Leg .. ..	..	..	..	..	..	..	..	..	..	..
Malleolar Height .. ..	..	..	..	..	..	..	..	..	..	..
Length of Lower Limb .. ..	..	..	..	..	..	..	..	..	..	..
„ Upper Limb, R	670	426	665	430	670	426	615	418	650	414
„ „ L	666	426	663	430	670	426	615	418	650	414
„ Upper Arm, R	260	165	255	165	240	153	225	152	219	139
„ „ L	256	165	250	165	240	153	225	152	219	139
„ Forearm, R	238	151	241	156	250	159	224	152	246	157
„ „ L	238	151	243	156	250	159	224	152	246	157
„ Hand, R	172	110	169	110	180	115	166	113	185	118
„ „ L	172	110	170	110	180	115	166	113	185	118
„ Foot, R	231	149	220	143	228	145	215	146	235	150
„ „ L	229	149	223	143	228	145	215	146	235	150

ADDITIONAL PO-KLO MEASUREMENTS

Serial Number	Stature	Stature 1000	Span	Stature 1000	Inter- crural Index
VIII ..	1568	1000	1635	1043	101'6
IX ..	1517	1000	1580	1042	93'0
X ..	1519	1000	1571	1034	92'5

INDICES						
Interbrachial .. ..	..	92'3	94'9	104'1	99'6	112'1
Intercrural .. ..	..	..	..	..	..	..
Intermembral .. ..	..	..	..	..	..	..
Hand: foot .. ..	..	74'9	72'9	79'0	77'2	78'8
Girdle .. ..	..	..	..	..	..	..
Calf .. ..	..	..	..	..	..	..

TABLE II (CONTINUED)
SAKAIS

Serial Number	PO-KLO— <i>contd.</i>		JEHEHR							
	26		27		28		29		30	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Stature	1572	1000	1570	1000	1560	1000	1439	1000	1590	1000
Span	1530	973	1630	1038	1538	1050	1497	1037	1600	1006
Sitting Height .. ..	..	..	..	..	..	..	..	..	..	..
Kneeling „ .. ..	..	..	..	..	..	..	..	..	..	..
Umbilical „ .. ..	..	..	..	..	..	..	..	..	..	..
BODY SEGMENTS										
Head .. ..	..	..	..	..	..	..	..	..	..	..
Neck .. ..	..	..	..	..	..	..	..	..	..	..
Trunk .. ..	..	..	..	..	..	..	..	..	..	..
Thigh .. ..	..	..	..	..	..	..	..	..	..	..
Leg .. ..	..	..	..	..	..	..	..	..	..	..
Malleolar Height .. ..	..	..	..	..	..	..	..	..	..	..
Length of Lower Limb .. ..	..	..	..	..	..	..	..	..	..	..
„ Upper Limb, R .. ..	..	..	..	..	..	..	..	..	..	..
„ „ L	685	436	722	460	710	455	631	440	690	434
„ Upper Arm, R .. ..	..	..	..	..	..	..	..	..	..	..
„ „ L	254	162	262	168	255	164	224	156	250	158
„ Forearm, R .. ..	..	..	..	..	..	..	..	..	..	..
„ „ L	256	163	273	174	251	161	224	156	245	154
„ Hand, R .. ..	..	..	..	..	..	..	..	..	..	..
„ „ L	175	112	124	119	204	130	183	127	195	124
„ Foot, R .. ..	..	..	..	..	..	..	..	..	..	..
„ „ L	245	156	250	160	254	163	230	160	240	152

ADDITIONAL JEHEHR MEASUREMENTS

Serial Number	Stature	Stature 1000	Span	Stature 1000	Inter- brachial Index
XI ..	1570	1000	1580	1006	89'5
XII ..	1528	1000	1584	1037	103'5
XIII ..	1570	1000	1575	1003	94'8
XIV ..	1547	1000	1595	1031	109'4
XV ..	1503	1000	1548	1030	105'9
XVI (♀) ..	1323	1000	..	..	..
XVII (♀) ..	1377	1000	..	..	..

INDICES					
Interbrachial .. ..	..	100'8	105'3	98'5	100
Intercrural .. ..	..	..	..	..	..
Intermembral .. ..	..	..	..	..	..
Hand : foot .. ..	..	71'5	74'8	80'4	79'6
Girdle .. ..	..	..	..	..	..
Calf .. ..	..	..	..	..	..

TABLE II (CONTINUED)

SAKAIS

Serial Number	MAI DARAT (SOUTH PERAK)											
	31		32		33		34		35		36	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Total Height	1568	1000	1445	1000	1575	1000	1552	1000	1524	1000	1539	1000
Span	1573	1003	1448	1002	1524	968	1580	1018	1577	1035	1590	1033
Sitting Height	834	532	782	541	818	529	828	533	798	524	832	541
Kneeling "	1178	751	1103	763	1150	730	1162	749	1149	754	1152	749
Umbilical "	931	594	829	574	939	596	900	580	893	586	904	587
BODY SEGMENTS												
Head	226	143	204	141	212	135	224	144	221	145	227	147
Neck	66	42	69	48	68	43	68	44	71	47	63	41
Trunk	542	346	509	352	538	342	536	345	506	332	542	352
Thigh	344	219	321	222	332	211	334	217	351	230	320	208
Leg	314	200	267	185	351	223	314	202	300	197	314	204
Malleolar Height	76	49	75	52	74	47	76	49	75	49	73	47
Length of Lower Limb..	734	468	663	459	758	481	724	466	726	477	707	459
" Upper Limb, R ..	666		602		673		700		677		667	
" L ..	667	425	604	417	675	428	696	450	676	444	669	434
" Upper Arm, R ..	243		212		256		267		264		238	
" L ..	243	155	211	146	257	163	261	170	264	173	246	157
" Forearm, R ..	253		217		254		250		232		247	
" L ..	252	161	217	150	255	162	251	161	232	152	239	158
" Hand, R ..	170		173		163		183		181		182	
" L ..	172	109	176	121	163	103	184	118	180	118	184	119
" Foot R ..	231		228		223		241		237		235	
" L ..	229	147	232	159	223	142	241	155	237	155	235	153
Breadth at Shoulders ..	432	276	391	271	354	224	389	251	403	264	398	259
" Hips ..	295	188	271	188	272	173	281	180	285	187	287	186
Girth of Chest—At Rest ..	865	552	826	572	753	478	783	505	794	521	815	529
Expanded ..	900	574	870	602	781	496	847	546	820	538	850	552
Deflated ..	838	534	765	529	736	467	764	492	729	478	785	510
Circumference of Leg— Maximum Supramalleolar												
R ..	333		343		280		325		296		335	
L ..	327	210	345	238	276	170	323	209	305	197	331	226
Minimum Supramalleolar												
R ..	204		201		174		188		194		190	
L ..	201	129	205	140	170	129	182	120	194	127	192	124
INDICES												
Interbrachial.. ..	103.9		100.6		99.3		94.9		88.0		100.2	
Intercrural	91.3		83.3		105.8		94.0		85.5		98.2	
Intermembral	75.3		72.8		74.9		79.3		76.2		76.5	
Hand : foot	74.4		75.9		73.1		76.1		76.1		77.9	
Girdle	68.3		69.4		72.2		72.2		70.8		72.2	
Calf	61.4		59.4		61.9		57.2		64.6		59.4	

TABLE II (CONTINUED)

SAKAIS

		MAI DARAT—Continued											
Serial Number		37		38		39		40		41		42	
		MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Total Height		1508	1000	1510	1000	1524	1000	1540	1000	1546	1000	1583	1000
Span		1550	1028	1557	1031	1631	1070	1639	1064	1595	1031	1562	986
Sitting Height		796	528	764	507	791	520	781	507	807	520	801	508
Kneeling „		1097	727	1121	742	1114	729	1152	749	1156	744	1195	752
Umbilical „		899	596	927	612	875	572	958	620	893	579	930	587
BODY SEGMENTS													
Head		208	138	205	136	223	146	209	136	229	148	210	132
Neck		59	39	53	35	54	35	55	36	75	48	87	55
Trunk		529	351	506	335	514	337	517	335	503	325	504	319
Thigh		301	200	357	236	323	211	371	240	349	226	394	249
Leg		341	226	311	206	338	222	309	201	312	201	311	196
Malleolar Height		70	46	78	52	72	47	79	51	78	50	77	49
Length of Lower Limb..		712	472	746	494	733	482	759	493	739	478	782	494
„ Upper Limb, R ..		655		672		681		686		673		677	
„ „ L ..		654	434	674	438	682	447	678	443	675	436	673	426
„ Upper Arm, R ..		235		252		255		258		251		259	
„ „ L ..		234	155	252	167	254	168	245	163	254	166	257	163
„ Forearm, R ..		236		243		245		250		244		246	
„ „ L ..		237	157	240	160	249	162	260	166	244	158	246	156
„ Hand, R ..		184		177		181		178		178		172	
„ „ L ..		183	122	180	118	178	118	173	114	177	115	170	108
„ Foot, R ..		232		220		224		235		227		225	
„ „ L ..		236	155	220	146	228	148	236	153	228	147	228	143
Breadth at Shoulders ..		374	248	395	261	441	289	392	254	398	257	383	242
„ Hips		274	182	271	180	301	198	275	179	281	182	282	184
Girth of Chest—At Rest ..		788	523	820	542	920	603	860	552	820	530	780	493
„ Expanded ..		815	540	838	555	963	632	885	575	845	546	806	508
„ Deflated ..		760	504	790	523	873	573	803	521	790	521	753	477
Circumference of Leg—													
Maximum Supramalleolar													
„ R ..		285		336		355		330		315		317	
„ L ..		294	192	328	224	320	..	332	215	316	205	315	198
Minimum Supramalleolar													
„ R ..		182		187		190		200		195		193	
„ L ..		179	120	189	124	190	124	195	129	195	127	189	120
INDICES													
Interbrachial		100'8		95'9		97'0		101'3		96'6		98'4	
Intercrural		113'2		87'2		104'7		83'4		89'4		78'9	
Intermembral		73'4		73'8		75'9		74'6		75'2		72'6	
Hand : foot		78'3		81'1		79'4		77'9		78'0		75'4	
Girdle		73'2		68'6		68'4		70'4		70'3		72'6	
Calf		62'5		56'7		..		59'7		62'9		60'4	

TABLE II (CONTINUED)

SAKAIS

Serial Number	MAI DARAT—Continued											
	43		44		45		46		47		48	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Total Height	1503	1000	1477	1000	1541	1000	1497	1000	1514	1000	1507	1000
Span	1590	1057	1529	1035	1555	1009	1568	1049	1509	997	1541	1023
Sitting Height	768	511	793	539	817	529	767	512	..	..	..	..
Kneeling	1121	748	1105	750	1145	745	1114	743	..	..	..	..
Umbilical	881	585	845	573	895	580	921	617	..	..	..	..
BODY SEGMENTS												
Head	204	136	216	146	214	138	210	141	..	..	..	..
Neck	62	41	54	37	76	51	60	40	..	..	..	..
Trunk	502	334	523	355	527	341	497	333	..	..	..	..
Thigh	353	235	312	211	328	213	347	231	..	..	..	..
Leg	306	203	301	204	320	208	312	209	..	..	..	..
Malleolar Height	76	51	71	48	76	51	71	47	..	..	..	..
Length of Lower Limb	735	489	684	463	724	471	730	488	..	..	..	..
" Upper Limb, R	690	458	657	445	652	421	666	445	..	..	..	..
" L	687	458	660	445	649	421	663	445	..	..	..	..
" Upper Arm, R	265	176	249	171	232	149	245	162	..	..	..	..
" L	264	176	251	171	229	149	242	162	..	..	..	..
" Forearm, R	251	167	239	162	238	155	243	164	..	..	..	..
" L	249	167	238	162	240	155	246	164	..	..	..	..
" Hand, R	174	116	169	114	182	117	178	119	..	..	..	..
" L	174	116	169	114	180	117	175	119	..	..	..	..
" Foot, R	227	152	227	154	230	148	231	154	..	..	..	..
" L	228	152	227	154	229	148	229	154	..	..	..	..
Breadth at Shoulders	379	251	392	265	382	247	370	247	..	..	..	..
" Hips	281	227	273	226	275	178	264	176	..	..	..	..
Girth of Chest—At Rest	805	535	804	543	780	506	765	511	..	..	..	..
Expanded	825	549	828	560	800	519	800	535	..	..	..	..
Deflated .. ..	..	..	772	522	740	480	750	501	..	..	..	..
Circumference of Leg— Maximum Supramalleolar	295	198	318	214	287	186	292	194	..	..	..	..
" L	301	198	314	214	285	186	288	194	..	..	..	..
Minimum Supramalleolar	178	120	196	129	175	114	192	127	..	..	..	..
" L	181	120	185	129	175	114	190	127	..	..	..	..
INDICES												
Interbrachial	94'8		95'0		103'8		100'5		..		..
Intercrural	86'8		96'3		97'5		89'8		..		..
Intermembral	78'1		79'8		71'4		74'1		..		..
Hand: foot	76'3		74'5		76'9		76'7		..		..
Girdle	74'0		69'7		71'9		71'4		..		..
Calf	60'4		60'2		61'2		65'9		..		..

TABLE II (CONTINUED)

SAKAIS

MAI DARAT—Continued												
Serial Number	49		50		51		52		53		54	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Total Height	1493	1000	1505	1000	1513	1000	1411	1000	1460	1000	1567	1000
Span	1494	1000	1549	1030	1605	1060	1420	1006	1526	1047	1577	1006
Sitting Height	805	539	811	539	799	508	732	500	813	539	834	530
Kneeling „	1125	758	1120	743	1127	746	1064	756	1130	773	1174	748
Umbilical „	877	587	885	587	943	624	842	598	875	601	930	590
BODY SEGMENTS												
Head	217	146	205	136	240	159	207	147	211	145	238	152
Neck	63	42	76	51	61	40	57	40	75	51	66	42
Trunk	525	352	530	352	498	330	468	332	527	361	530	338
Thigh	320	215	309	204	328	217	332	235	317	217	340	217
Leg	296	199	316	210	317	210	276	196	257	178	315	202
Malleolar Height ..	72	48	69	46	69	46	71	50	73	50	78	50
Length of Lower Limb..	688	461	694	461	714	473	679	482	647	444	733	469
„ Upper Limb, R ..	648		677		695		607		650		690	
„ „ L ..	652	435	674	447	692	459	601	430	652	448	684	438
„ Upper Arm, R ..	244		258		275		227		236		267	
„ „ L ..	242	163	257	171	269	180	221	159	242	164	264	170
„ Forearm, R ..	229		243		236		215		232		249	
„ „ L ..	233	156	243	162	237	157	215	153	225	157	245	158
„ Hand, R ..	175		176		184		165		182		174	
„ „ L ..	177	118	174	116	186	122	165	117	185	126	175	111
„ Foot, R ..	221		225		228		216		220		230	
„ „ L ..	223	149	224	150	225	150	218	154	221	151	230	147
Breadth at Shoulders ..	399	267	403	266	400	264	372	265	395	271	383	245
„ Hips	288	193	288	192	255	169	257	182	250	172	280	179
Girth of Chest—At Rest ..	837	559	810	538	819	541	745	529	830	570	780	498
„ Expanded ..	883	591	841	559	875	580	780	553	859	589	813	519
„ Deflated ..	814	545	755	502	765	506	717	508	788	540	724	464
Circumference of Leg—												
Maximum Supramalleolar												
„ R ..	315		306		315		312		318		310	
„ L ..	312	210	305	201	313	208	315	222	316	217	303	197
Minimum Supramalleolar												
„ R ..	190		191		185		195		196		170	
„ L ..	194	128	186	126	185	122	195	138	190	122	169	120
INDICES												
Interbrachial	95'1		94'4		87'1		95'9		98'7		93'2	
Intercrural	92'5		102'2		96'7		83'2		81'3		92'6	
Intermembral	76'9		80'3		78'9		72'2		82'4		78'2	
Hand: foot	79'4		78'0		81'6		76'4		83'3		76'0	
Girdle	72'2		71'6		63'7		69'2		69'3		72'2	
Calf	61'4		61'7		58'9		62'2		60'9		58'4	

TABLE II (CONTINUED)
SAKAIS—SOUTH PERAK MALAYS

Serial Number	MAI DARAT—Continued								SOUTH PERAK MALAYS			
	55		56		57		58		101		102	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Stature	1581	1000	1548	1000	1506	1000	1638	1000	1544	1000	1558	1000
Span	1650	1044	1627	1051	1577	1047	1707	1042	1587	1028	1583	1017
Sitting Height	839	531	841	542	793	528	861	526	857	536	783	502
Kneeling	1178	743	1156	746	1122	748	1231	750	1160	750	1135	729
Umbilical	930	589	915	591	893	591	972	594	875	567	939	603
BODY SEGMENTS												
Head	205	130	220	142	213	141	209	128	227	147	208	134
Neck	83	52	81	52	65	43	91	56	54	35	72	46
Trunk	551	349	540	347	515	341	561	343	576	372	503	323
Thigh	339	215	315	204	329	218	370	225	303	196	352	226
Leg	330	209	316	204	315	208	336	205	311	201	339	218
Malleolar Height	73	46	76	49	69	46	71	43	73	47	84	54
Length of Lower Limb	742	470	707	456	713	474	777	473	687	445	775	497
" Upper Limb, R	717	453	704	455	655	434	705	431	686	442	699	449
L	717	453	702	455	653	434	708	431	682	442	699	449
" Upper Arm, R	283	178	265	170	235	155	275	170	283	182	280	180
L	280	178	263	170	233	155	280	170	279	182	280	180
" Forearm, R	249	158	263	168	250	165	249	151	220	143	241	155
L	250	158	258	168	246	165	245	151	221	143	242	155
" Hand, R	185	118	176	116	170	114	181	111	183	118	178	114
L	187	118	181	116	174	114	183	111	182	118	177	114
" Foot, R	237	150	232	150	224	148	242	148	250	162	226	144
L	235	150	233	150	224	148	244	148	250	162	223	144
Breadth at Shoulders	382	241	427	276	413	274	404	246	320	207	385	247
" Hips	275	174	286	186	307	204	296	182	287	186	283	182
Girth of Chest—At Rest	816	523	861	558	835	554	842	513	766	496	775	497
Expanded	858	542	856	579	867	574	895	546	804	520	802	515
Deflated	754	478	805	520	791	525	815	496	743	481	762	489
Circumference of Leg— Maximum Supramalleolar	292	186	342	225	314	207	316	190	312	209	294	189
R	292	186	342	225	314	207	316	190	312	209	294	189
L	297	186	337	225	312	207	305	190	314	209	294	189
Minimum Supramalleolar	181	118	193	124	185	123	178	108	205	133	175	112
R	181	118	193	124	185	123	178	108	205	133	175	112
L	184	118	192	124	185	123	174	108	205	133	175	112
INDICES												
Interbrachial	88.6		98.8		106.1		89.3		78.6		86.4	
Intercrural	97.5		100.3		95.6		90.8		102.7		96.3	
Intermembral	79.5		83.0		74.8		74.3		81.8		75.5	
Hand: foot	78.7		76.9		76.8		74.9		73.0		79.0	
Girdle	72.0		66.9		74.4		73.4		89.7 (I)		72.8	
Calf	62.3		58.8		58.6		58.6		69.4		58.6	

TABLE II (CONTINUED)
SOUTH PERAK MALAYS

Serial Number	SOUTH PERAK MALAYS—Continued											
	103		104		105		106		107		108	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Stature	1505	1000	1553	1000	1763	1000	1515	1000	1575	1000	1585	1000
Span	1441	957	1624	1046	1852	1051	1581	1043	1565	993	1615	1019
Sitting Height	791	525	807	519	883	501	752	496	832	528	840	530
Kneeling	1105	735	1158	745	1286	729	1117	737	1162	738	1186	748
Umbilical	887	589	951	612	1112	636	934	616	889	564	955	602
BODY SEGMENTS												
Head	203	135	212	137	246	140	213	141	228	145	220	139
Neck	89	59	74	48	55	31	67	44	75	48	81	51
Trunk	500	332	521	336	582	330	472	312	529	326	539	340
Thigh	314	209	351	226	403	228	365	241	330	210	346	218
Leg	327	217	321	206	391	221	319	211	336	214	318	200
Malleolar Height	71	48	74	48	86	49	79	52	77	49	81	51
Length of Lower Limb	714	474	746	480	880	498	763	504	743	472	745	470
" Upper Limb, R	655		700		787		678		701		703	
L	649	433	698	450	784	445	677	447	698	444	704	444
" Upper Arm, R	255		256		296		248		259		263	
L	252	168	257	165	292	167	245	163	260	165	265	167
" Forearm, R	226		250		287		250		264		262	
L	225	150	249	161	289	163	249	165	260	167	261	165
" Hand, R	174		194		204		180		178		178	
L	172	115	192	124	203	115	183	119	178	113	178	112
" Foot, R	224		244		252		242		243		234	
L	224	149	245	158	257	144	242	160	244	153	232	147
Breadth at Shoulders	346	230	392	252	431	244	386	255	402	256	412	260
" Hips	255	169	276	178	329	187	272	179	282	179	275	174
Girth of Chest—At Rest	714	488	775	499	909	515	730	481	822	522	813	514
Expanded	752	500	800	515	925	524	750	495	840	534	839	529
Deflated	706	469	733	471	873	495	717	473	792	503	778	491
Circumference of Leg—												
Maximum Supramalleolar												
R	275		312		365		305		341		333	
L	279	184	312	201	362	206	306	202	335	214	332	220
Minimum Supramalleolar												
R	189		196		210		193		205		198	
L	187	125	194	126	210	119	190	127	202	129	200	126
INDICES												
Interbrachial	88'9		97'4		98'0		101'2		101'0		99'1	
Intercrural	104'1		91'5		97'1		87'5		101'8		91'9	
Intermembral	74'9		75'3		73'4		72'7		78'4		79'0	
Hand : foot	77'3		78'9		80'0		75'0		73'4		77'2	
Girdle	73'8		70'5		76'2		70'5		70'1		71'1	
Calf	67'9		62'6		57'8		62'7		60'3		59'7	

TABLE II (CONTINUED)
SOUTH PERAK MALAYS

Serial Number	SOUTH PERAK MALAYS—Continued											
	109		110		111		112		113		114	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Stature	1600	1000	1513	1000	1577	1000	1623	1000	1612	1000	1613	1000
Span	1624	1025	1606	1061	1619	1026	1733	1068	1621	1006	1615	1001
Sitting Height	828	517	778	515	842	535	863	531	847	525	841	521
Kneeling "	1194	746	1119	739	1179	746	1218	749	1180	732	1193	740
Umbilical "	965	603	951	628	950	602	994	611	960	595	973	603
BODY SEGMENTS												
Head	222	139	209	138	224	142	228	141	241	149	244	151
Neck	69	43	68	45	67	42	70	43	64	40	59	37
Trunk	537	336	501	331	551	349	565	348	542	336	538	334
Thigh	366	229	341	226	337	214	355	219	333	206	352	219
Leg	326	204	324	214	327	207	322	198	348	216	347	215
Malleolar Height	80	50	70	46	71	45	83	51	84	52	73	45
Length of Lower Limb.. .. .	772	483	735	486	735	466	760	468	765	474	772	479
" Upper Limb, R	698	435	695	458	712	451	766	471	703	435	694	429
" Upper Limb, L	696	435	693	458	711	451	766	471	703	435	691	429
" Upper Arm, R	260	162	264	174	270	173	285	177	249	156	266	163
" Upper Arm, L	260	162	262	174	275	173	288	177	253	156	260	163
" Forearm, R	258	160	243	161	258	162	281	172	251	156	250	156
" Forearm, L	257	160	245	161	253	162	277	172	250	156	252	156
" Hand, R	180	112	189	124	184	116	200	123	203	124	178	110
" Hand, L	179	112	186	124	183	116	201	123	200	124	179	110
" Foot, R	230	144	230	151	246	146	264	164	..	157	245	154
" Foot, L	231	144	228	151	244	146	269	164	253	157	246	154
Breadth at Shoulders	413	254	392	259	396	251	445	274	391	242	408	253
" Hips	280	175	278	184	275	175	299	184	293	182	288	178
Girth of Chest—At Rest	822	514	759	502	813	518	889	548	..	..	812	503
Expanded	840	525	787	521	860	545	944	581	840	520	840	520
Deflated	792	494	722	477	769	488	849	522	..	..	775	480
Circumference of Leg—												
Maximum Supramalleolar												
R	341	212	319	210	325	206	391	242	312	193	330	204
L	335	212	..	210	323	206	394	242	312	193	327	204
Minimum Supramalleolar												
R	205	127	194	127	202	128	218	125	215	128	208	129
L	202	127	191	127	202	128	220	125	212	128	210	129
INDICES												
Interbrachial	99°0		92°9		93°8		97°3		100°2		95°5	
Intercrural	89°1		95°2		97°0		90°6		104°3		98°6	
Intermembral	74°9		76°3		79°5		83°4		73°8		73°6	
Hand: foot	79°1		75°0		77°8		80°3		82°2		78°1	
Girdle	74°6		76°9		73°4		73°8		66°3		70°8	
Calf	59°4		62°1		60°4		65°1		60°2		67°9	

TABLE II
SOUTH PERAK MALAYS

SOUTH PERAK MALAYS -Continued												
Serial Number	115		116		117		118		119		120	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Stature	1554	1000	1560	1000	1601	1000	1684	1000	1571	1000	1524	1000
Span	1629	1048	1606	1030	1623	1013	1747	1037	..	..	1574	1032
Sitting Height	807	519	828	531	820	512	819	486	809	515	761	500
Kneeling „	1166	750	1153	741	1187	741	1241	737	1187	756	1137	745
Umbilical „	919	585	926	594	950	594	1054	626	952	606	910	596
BODY SEGMENTS												
Head	217	152	227	146	210	150	212	144	214	136	219	144
Neck	64	41	64	41	80	50	49	29	70	44	50	33
Trunk	506	326	517	342	500	313	518	312	525	334	492	322
Thigh	319	231	325	209	367	229	422	250	378	240	376	246
Leg	320	206	327	210	336	210	367	218	305	194	311	204
Malleolar Height	68	44	80	51	78	49	76	48	79	51	76	50
Length of Lower Limb.. .. .	747	481	732	469	781	487	875	518	792	505	763	500
„ Upper Limb, R	705	455	702	449	698	435	766	455	..	..	671	439
„ „ L	709	455	698	449	695	435	765	455	703	447	667	439
„ Upper Arm, R	260	168	254	162	253	157	284	169	..	165	241	157
„ „ L	261	168	252	162	249	157	285	169	260	165	238	157
„ Forearm, R	264	170	259	165	252	158	276	164	..	161	248	162
„ „ L	264	170	256	165	254	158	275	164	253	161	247	162
„ Hand, R	181	117	189	122	193	120	206	122	..	121	182	120
„ „ L	184	117	190	122	192	120	205	122	190	121	182	120
„ Foot, R	216	143	241	154	253	159	265	157	233	150	320	145
„ „ L	217	143	240	154	254	159	265	157	237	150	223	145
Breadth at Shoulders	181	245	190	250	412	257	406	242	392	250	390	256
„ Hips	271	174	291	187	317	198	298	177	289	184	258	169
Girth of Chest—At Rest	750	483	805	515	839	525	879	521	800	510	780	511
Expanded	790	508	826	530	870	543	924	549	858	546	820	538
Deflated	725	466	777	498	796	498	818	485	780	497	762	500
Circumference of Leg— Maximum Supramalleolar												
„ R	300	193	316	208	347	216	346	205	334	209	209	189
„ L	300	193	321	208	345	216	344	205	323	209	288	189
Minimum Supramalleolar												
„ R	180	115	196	123	215	132	206	123	215	136	171	113
„ L	178	115	189	123	208	132	210	123	212	136	175	113
INDICES												
Interbrachial	101'2		101'8		100'8		96'9		97'3		103'3	
Intercrural	89'1		100'6		91'6		87'0		80'7		82'8	
Intermembral	77'3		78'4		71'7		71'2		75'2		71'0	
Hand: foot	77'1		78'8		76'0		77'6		80'9		82'2	
Girdle	71'1		74'6		77'0		73'3		73'9		66'2	
Calf	59'7		59'3		61'2		60'4		65'2		60'7	

TABLE II (CONTINUED)
SOUTH PERAK MALAYS

Serial Number	SOUTH PERAK MALAYS—Continued											
	121		122		123*		124		125		126	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Total Height	1567	1000	1488	1000	1232	1000	1622	1000	1670	1000	1631	1000
Span	1656	1059	1509	1024	1237	1004	1671	1030	1750	1048	1738	1065
Sitting Height	815	500	836	564	657	533	841	519	859	524	808	495
Kneeling "	1160	741	1121	755	927	752	1209	745	1238	740	1207	739
Umbilical "	928	592	828	556	734	595	989	609	1041	624	1025	629
BODY SEGMENTS												
Head	224	143	218	147	190	154	242	149	245	147	230	141
Neck	79	50	79	53	38	31	61	38	76	46	57	35
Trunk	512	308	519	362	429	348	538	332	538	322	521	320
Thigh	345	220	285	192	270	219	368	228	379	227	399	244
Leg	316	214	296	199	247	200	331	206	358	214	346	212
Malleolar Height	71	45	71	48	58	47	80	49	74	44	78	48
Length of Lower Limb ..	752	480	652	439	575	466	781	481	811	485	823	505
" Upper Limb, R ..	730	461	651	437	533	432	712	439	752	450	759	466
L ..	714	451	650	437	531	432	711	439	753	450	759	466
" Upper Arm, R ..	282	177	238	160	201	163	260	159	287	172	286	175
L ..	274	177	238	160	201	163	256	159	280	172	284	175
" Forearm, R ..	261	164	231	154	187	152	259	159	268	162	270	166
L ..	253	164	228	154	187	152	258	159	270	162	270	166
" Hand, R ..	187	120	182	123	145	117	193	120	197	117	205	126
L ..	187	120	184	123	143	117	197	120	192	117	205	126
" Foot, R ..	240	153	231	156	183	149	248	153	242	144	247	151
L ..	239	153	234	156	183	149	250	153	240	144	247	151
Breadth at Shoulders ..	403	258	426	286	319	259	401	247	416	249	405	248
" Hips ..	285	182	294	198	224	184	263	162	281	169	291	178
Girth of Chest—At Rest ..	751	480	885	595	615	500	825	509	864	526	820	502
Expanded ..	802	512	906	608	648	525	870	536	890	532	855	524
Deflated ..	722	462	830	558	589	478	775	477	794	475	735	451
Circumference of Leg—												
Maximum Supramalleolar												
R ..	290	184	340	228	220	179	352	214	287	172	338	207
L ..	285	184	339	228	220	179	345	214	288	172	337	207
Minimum Supramalleolar												
R ..	192	125	220	147	141	114	206	128	188	123	215	132
L ..	199	125	218	147	141	114	209	128	189	123	217	132
INDICES												
Interbrachial	92.4		96.4		93.1		100.0		93.4		94.8	
Intercrural	97.5		104.0		92.7		90.5		94.7		86.7	
Intermembral	98.5		80.5		75.1		73.2		75.6		74.6	
Hand : foot	77.1		78.6		78.7		78.4		80.8		81.2	
Girdle	70.6		69.0		70.4		68.7		67.5		70.9	
Calf	68.2		64.5		64.1		59.6		65.6		64.1	

TABLE II (CONTINUED)
SOUTH PERAK MALAYS

Serial Number	SOUTH PERAK MALAYS—Continued											
	127		128		129		130		131		132	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Total Height	1685	1000	1627	1000	1564	1000	1609	1000	1644	1000	1595	1000
Span	1771	1051	1581	972	1621	1041	1633	1015	1630	991	1617	1013
Sitting Height	847	503	868	534	836	534	850	528	899	546	849	533
Kneeling "	1238	735	1204	741	1167	746	1212	754	1240	755	1190	745
Umbilical "	1025	609	994	610	945	604	952	591	990	603	935	585
BODY SEGMENTS												
Head	239	142	228	140	223	143	218	136	225	137	218	137
Neck	77	46	82	50	68	43	89	55	82	50	85	53
Trunk	531	316	558	343	545	348	543	337	592	360	546	342
Thigh	391	232	336	206	331	212	362	225	341	207	341	221
Leg	179	225	150	215	121	205	120	199	128	200	129	206
Malleolar Height	68	40	73	45	76	49	77	48	76	46	76	48
Length of Lower Limb	818	497	759	466	728	465	759	472	745	459	746	467
" Upper Limb, R	771	456	679	417	692	441	716	412	712	435	706	443
" Upper Limb, L	766	456	681	417	690	441	718	445	719	435	704	443
" Upper Arm, R	299	174	249	154	257	163	270	168	274	169	276	173
" Upper Arm, L	290	174	254	154	252	163	271	168	281	169	277	173
" Forearm, R	268	161	253	154	252	162	257	160	257	157	252	157
" Forearm, L	275	161	251	154	254	162	257	160	266	157	248	157
" Hand, R	204	121	177	108	183	117	189	118	181	109	178	112
" Hand, L	201	121	176	108	184	117	190	118	178	109	179	112
" Foot, R	255	152	235	146	235	152	245	152	243	148	235	148
" Foot, L	255	152	241	146	239	152	243	152	243	148	237	148
Breadth at Shoulders	414	246	392	241	406	255	399	248	426	259	400	251
" Hips	320	190	306	188	288	184	298	185	302	184	286	180
Girth of Chest—At Rest	864	513	793	488	840	526	788	489	801	486	805	506
Expanded	890	529	815	501	858	548	830	519	827	503	852	534
Deflated	818	485	743	457	788	504	752	467	775	471	765	479
Circumference of Leg—												
Maximum Supramalleolar												
R	350	208	320	196	315	201	325	204	296	180	302	189
L	352	208	318	196	316	201	330	204	295	180	303	189
Minimum Supramalleolar												
R	224	132	206	126	200	127	190	118	198	120	181	113
L	223	132	203	126	198	127	189	118	197	120	178	113
INDICES												
Interbrachial	92.3		100.0		99.5		95.4		93.1		92.4	
Intercrural	97.1		104.1		97.1		88.5		96.3		96.8	
Intermembral	73.6		73.4		77.9		77.4		80.2		78.6	
Hand: foot	79.4		74.3		77.4		77.8		73.9		75.6	
Girdle	77.4		78.1		71.8		74.7		71.3		71.8	
Calf	63.7		64.2		63.1		58.0		66.6		69.4	

TABLE II (CONTINUED)
SOUTH PERAK MALAYS

Serial Number	SOUTH PERAK MALAYS—Continued									
	133		134		135		136		137	
	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000	MM.	Stature 1000
Stature	1643	1000	1587	1000	1597	1000	1599	1000	1630	1000
Span	1720	1048	1674	1054	1671	1047	1611	1007	1689	1037
Sitting Height	842	512	802	505	837	524	806	505	841	515
Kneeling „	1208	734	1197	754	1194	749	1192	746	1222	750
Umbilical „	996	605	951	600	983	615	992	620	971	595
BODY SEGMENTS										
Head	231	141	236	149	237	148	205	128	232	142
Neck	87	53	72	45	63	40	76	48	87	53
Trunk	524	319	494	312	537	336	525	328	522	320
Thigh	366	222	395	249	357	224	386	241	381	234
Leg	366	222	313	186	331	208	311	207	329	202
Malleolar Height	69	42	77	48	72	45	76	48	79	48
Length of Lower Limb.. ..	801	487	785	466	760	476	793	495	789	484
„ Upper Limb, R	743	448	721	455	706	441	692	433	730	446
„ „ L	731	448	722	455	703	441	693	433	727	446
„ Upper Arm, R	281	168	271	170	252	158	257	163	270	165
„ „ L	270	168	268	170	253	158	263	163	267	165
„ Forearm, R	270	165	258	165	262	163	259	162	268	163
„ „ L	270	165	265	165	258	163	259	162	264	163
„ Hand, R	192	116	192	120	192	120	176	107	192	114
„ „ L	191	116	189	120	192	120	171	107	196	114
„ Foot, R	250	152	243	153	246	154	221	142	240	147
„ „ L	248	152	243	153	245	154	232	142	240	147
Breadth at Shoulders	405	246	402	254	406	254	362	226	404	248
„ Hips	293	178	287	181	292	172	269	164	294	181
Girth of Chest—At Rest	813	495	816	515	808	507	715	446	819	502
„ Expanded	832	506	838	529	830	520	763	476	839	515
„ Deflated	794	483	787	496	766	480	683	427	779	478
Circumference of Leg—										
Maximum Supramalleolar										
„ R	328	200	327	206	343	224	305	189	318	194
„ L	330	200	328	206	341	224	300	189	316	194
Minimum Supramalleolar										
„ R	195	120	210	132	210	132	178	112	195	122
„ L	198	120	210	132	210	132	180	112	200	122
INDICES										
Interbrachial	98.2		97.2		97.2		99.7		99.2	
Intercrural	100.0		79.4 (1)		92.6		87.9		86.5	
Intermembral	74.6		75.0		74.5		72.4		75.4	
Hand: foot	76.8		76.4		76.2		76.6		80.8	
Girdle	72.4		72.5		71.9		74.3		72.9	
Calf	89.7		84.9		81.4		80.3		80.2	

TABLE III
INDIVIDUAL CRANIAL INDICES (SEMANGS—SAKAIS)

	Serial Number	Cephalic Index	Vertical Index	Cephalic Module	Facial Index	Bigonial Index	Biorbito-nasal Index	Nasal Index	Aural Index
SEMANGS									
(i) HAMI	.. 1	..	..	..	..	..	..	123°5	57°8
	2	..	..	..	..	..	..	97°5	53°5
	♀ 3	..	..	..	..	..	..	102°5	51°0
	♀ 4	..	..	..	..	..	..	89°5	..
(ii) SEMAN	.. 5	74°5	68°1	152°0	74°6	97°1	112°5	100°0	..
	6	78°1	72°1	156°0	79°5	96°0	117°9	96°7	..
	7	80°3	..	..	..	..	..	97°7	..
	8	74°5	..	..	..	..	..	92°8	..
	9	80°6	70°0	155°3	77°8	96°2	108°3	97°7	..
	10	81°1	73°3	152°7	74°0	..	..	105°4	..
	11	77°0	72°6	154°7	80°8	..	..	89°2	..
	12	78°9	71°6	150°4	80°0	..	..	89°0	..
	13	74°9	68°0	151°5	79°2	..	..	100°0	..
	14	76°4	67°7	151°3	77°6	..	..	108°2	..
	15	76°6	69°6	154°2	78°5	..	..	108°8	..
	16	78°9	71°7	150°4	72°1	..	..	85°0	..
	17	78°2	..	..	..	..	..	105°2	..
	♀ 18	81°1	75°5	154°0	76°3	..	..	102°7	..
	♀ 19	77°0	70°4	150°0	82°7	..	..	87°9	..
	I	78°4	..	..	79°0	..	..	102°3	..
	II	77°4	..	..	77°3	..	..	107°6	..
	III	76°1	..	..	84°0	..	..	93°3	..
	IV	75°7	..	..	82°6	..	..	87°9	..
	V	77°9	..	..	76°8	..	..	94°7	..
	VI	80°4	..	..	82°7	..	..	81°3	..
	VII	78°4	..	..	78°5	..	..	98°7	..
SAKAIS									
(i) PO-KLO..	20	78°1	65°9	152°0	77°5	..	..	91°6	..
	21	79°6	71°0	155°3	77°1	..	..	90°9	..
	22	78°3	65°2	149°3	73°5	..	..	100°0	..
	23	74°1	70°9	154°3	76°7	..	..	95°4	..
	24	85°2	71°6	150°7	76°5	..	..	94°9	..
	25	77°9	67°4	155°3	84°9	..	..	93°4	..
	26	75°6	67°7	155°7	72°2	..	..	88°9	..
	VIII	73°7	..	152°4	75°4	..	..	100°0	..
	IX	80°9	..	150°2	71°6	..	..	102°3	..
	X	78°0	..	151°8	80°1	..	..	100°0	..

TABLE III (CONTINUED)

SAKAIS

Serial Number	Cephalic Index	Vertical Index	Cephalic Module	Facial Index	Bigonial Index	Biorbico-nasal Index	Nasal Index	Aural Index
SAKAIS—Continued								
(ii) SAKAI JEHEHR 27	74.3	64.9	156.3	75.6	..	..	93.4	..
28	79.6	68.5	147.3	72.7	..	..	88.6	..
29	82.4	71.5	145.0	72.4	..	..	102.5	..
30	75.4	70.4	157.0	74.1	..	..	100.0	..
XI	79.7	..	161.8	68.1	..	..	100.0	..
XII	77.2	..	153.1	83.2	..	..	92.2	..
XIII	78.4	..	149.1	74.7	..	..	95.3	..
XIV	77.6	..	151.0	78.6	..	..	91.5	..
XV	73.8	..	149.1	73.7	..	..	95.0	..
(iii) MAI DARAT 31	78.2	76.6	156.3	79.0	92.5	115.8	111.8	51.1
32	81.2	74.1	144.7	80.2	95.2	108.8	95.6	51.1
33	78.8	74.1	150.0	78.8	93.2	113.9	90.1	49.6
34	76.8	68.9	158.0	76.1	86.8	114.3	90.0	52.6
35	77.7	71.7	152.0	73.6	89.0	112.1	93.1	55.1
36	77.5	72.3	150.0	87.4	92.6	116.9	79.0	58.2
37	77.9	67.9	147.3	75.2	96.9	115.9	98.4	50.8
38	81.7	71.1	148.3	77.7	95.6	112.7	95.4	52.1
39	81.5	68.8	149.3	76.8	89.2	119.1	101.1	52.1
40	76.6	76.0	152.7	76.6	92.7	118.6	88.7	54.4
41	77.4	71.3	150.0	78.4	93.8	114.0	94.7	54.4
42	81.9	70.5	148.0	79.4	85.3	107.3	84.9	45.8
43	78.2	69.4	147.7	75.0	86.8	109.4	83.5	45.6
44	78.6	68.5	154.3	77.5	86.6	109.8	84.5	49.2
45	75.6	71.9	142.0	86.5	92.8	122.9	78.1	49.6
46	78.6	70.4	151.0	83.1	97.6	112.9	84.2	53.4
47	79.6	74.7	154.3	84.5	96.0	126.9	89.9	55.7
48	76.4	71.6	157.0	85.4	93.5	112.9	92.2	67.1
49	78.6	60.5	145.0	83.5	90.3	115.0	..	..
50	78.6	66.2	145.3	74.9	92.7	115.7	86.9	56.6
51	77.7	70.7	152.3	88.2	92.6	122.9	86.7	53.8
52	82.6	78.1	150.3	75.5	95.6	117.2	100.2	51.9
53	79.5	73.0	154.7	75.0	92.2	120.1	87.2	53.3
54	76.0	67.5	151.7	83.9	89.0	113.1	90.1	51.4
55	73.4	68.5	148.3	85.4	109.0	112.2	102.6	51.9
56	79.0	66.4	155.7	78.6	93.2	111.2	85.4	49.7
57	77.1	68.9	150.0	77.5	90.9	121.4	86.4	51.2
58	79.6	68.2	152.7	83.6	92.3	131.9	80.3	51.4
59	74.9	69.1	153.3	75.7	86.6	111.9	104.7	..
60	78.0	70.6	150.7	75.0	86.1	120.8	96.6	..
61	79.1	70.3	148.0	73.1	94.6	115.4	96.8	..

TABLE III (CONTINUED)
SAKAIS—COAST FOLK OF TRANG

Serial Number	Cephalic Index	Vertical Index	Cephalic Module	Facial Index	Biponial Index	Biorbito-nasal Index	Nasal Index	Aural Index
SAKAIS—Continued								
MAI DARAT								
62	76.1	68.5	150.0	78.5	95.6	120.4	98.8	..
63	77.2	65.9	139.0	75.9	97.8	118.1	102.5	..
64	81.1	72.7	152.3	81.4	90.4	116.2	91.3	..
♀ 65	78.8	74.6	147.0	72.6	95.5	106.1	108.6	..
♀ 66	79.7	69.7	148.0	76.0	94.9	112.2	90.9	..
♀ 67	77.7	71.2	152.0	79.6	97.9	125.9	86.6	..
(iv) ORANG BUKIT								
68	85.5	73.8	148.7	70.3	87.1	..	103.8	..
69	76.1	66.5	152.0	76.3	96.1	..	76.0	..
70	81.7	72.1	156.0	78.5	91.8	..	86.1	..
71	73.7	66.5	145.7	80.4	93.1	..	90.7	..
72	79.4	73.1	153.0	80.2	92.3	..	75.1	..
73	77.9	68.5	156.0	80.4	93.8	..	86.9	..
74	74.8	71.5	149.3	79.6	90.2	..	90.4	..
75	82.5	74.6	156.0	72.3	93.8	..	95.3	..
76	81.5	75.4	153.3	76.6	94.5	..	95.5	..
77	82.9	77.1	150.7	79.2	95.8	..	80.5	..
♀ 78	87.1	78.6	145.3	68.4	85.8	..	84.4	..
♀ 79	82.5	78.3	147.7	68.5	86.4	..	101.2	..
♀ 80	79.4	72.9	146.3	66.6	92.6	..	97.2	..
♀ 81	79.2	69.0	143.0	74.0	89.9	..	91.1	..
COAST FOLK OF TRANG								
(i) SAMBAMS ..								
82	83.9	74.4	155.0	81.5	..	..	85.7	..
83	83.6	70.6	152.3	78.0	..	..	93.5	..
84	81.0	73.8	152.0	75.3	..	..	86.6	..
85	89.8	76.2	156.0	73.7	..	..	85.5	..
86	89.4	78.3	151.7	92.5	..	..	73.2	..
87	83.0	76.2	156.3	76.2	..	..	84.6	..
88	84.9	78.6	155.3	76.5	..	..	105.7	..
89	81.1	71.7	160.0	69.0	..	..	93.5	..
90	82.2	68.4	150.3	75.9	..	..	81.4	..
91	84.2	72.5	152.3	79.1	..	..	83.3	..
92	88.6	75.9	153.3	73.3	..	..	92.6	..
93	77.7	68.9	151.7	79.6	..	..	93.0	..
94	79.2	74.2	154.7	84.5	..	..	76.7	..
95	82.4	74.3	155.7	76.2	..	..	79.5	..
96	84.3	72.9	157.7	72.5	..	..	90.8	..
(ii) ORANG LAUT KAPPIR								
97	82.0	69.8	158.7	89.3	..	..	82.7	..
98	86.9	76.9	160.0	75.5	..	..	84.1	..
99	76.2	67.2	163.0	75.6	..	..	91.5	..
100	84.0	74.0	154.7	81.5	..	..	..	..

TABLE III (CONTINUED)
SOUTH PERAK MALAYS

Serial Number	Cephalic Index	Vertical Index	Cephalic Module	Facial Index	Eligonal Index	Biorbino-nasal Index	Nasal Index	Aural Index
SOUTH PERAK MALAYS								
101	82.5	76.9	154.0	90.5	92.7	106.1	84.4	59.2
102	80.1	73.9	149.0	80.2	89.8	104.5	80.4	55.1
103	82.1	74.0	147.6	74.6	90.0	104.8	90.9	50.5
104	80.5	73.0	153.0	81.7	92.4	117.2	83.2	62.5
105	82.2	73.3	153.3	95.5	91.5	123.1	71.5	52.7
106	84.4	69.4	146.3	84.1	90.9	121.9	75.6	54.2
107	77.7	68.2	154.0	85.0	89.5	116.2	78.6	44.9
108	81.9	70.2	152.0	79.9	92.5	111.1	82.1	44.6
109	83.5	68.1	146.7	76.9	89.9	110.0	77.5	53.1
110	79.8	68.1	155.3	88.8	88.8	118.5	71.4	51.8
111	80.2	73.1	153.7	83.9	92.6	118.7	85.8	47.0
112	78.9	70.9	157.3	85.1	89.4	117.9	77.5	53.5
113	80.4	73.7	164.3	80.9	94.5	117.7	80.0	52.2
114	80.5	69.6	153.3	89.0	90.5	111.8	79.4	50.0
115	78.6	75.9	158.7	85.7	95.0	116.9	78.9	56.8
116	83.4	76.1	155.7	82.1	92.9	112.2	87.1	55.6
117	82.9	74.3	159.3	82.1	93.6	116.0	83.0	40.1
118	85.5	77.2	157.7	82.9	92.9	115.8	83.5	52.7
119	82.0	73.0	151.3	78.8	89.8	122.0	82.7	55.6
120	83.6	76.8	153.7	86.2	90.1	121.7	87.4	61.5
121	83.0	77.3	152.7	85.5	90.1	112.7	75.8	46.9
122	80.9	70.5	161.7	78.7	90.6	113.6	85.4	40.0
[123]	85.9	71.8	146.0	80.1	91.7	112.1	77.5	44.6]
124	88.5	78.1	162.7	83.8	94.6	119.9	^A 81.1	62.5
125	78.4	75.3	164.0	93.4	94.9	119.3	81.2	50.1
126	76.7	68.9	158.0	91.9	94.1	118.1	72.8	54.8
127	84.1	78.7	160.3	85.8	95.3	114.8	79.4	55.3
128	83.5	77.5	158.3	83.5	93.8	114.9	78.6	55.1
129	90.9	77.4	157.3	82.9	90.4	110.1	77.2	53.6
130	87.0	76.3	155.3	79.6	88.1	110.5	87.4	44.4
131	76.3	72.3	164.0	83.9	84.6	115.0	79.8	47.7
132	84.0	74.1	149.7	83.5	88.5	112.3	85.9	51.3
133	83.4	77.4	157.3	85.4	92.0	118.8	77.6	50.4
134	82.5	77.4	153.3	85.7	91.4	116.7	87.0	51.6
135	81.3	78.0	157.3	81.1	94.1	125.5	88.8	56.4
136	81.0	72.5	150.3	79.2	93.4	122.8	80.9	60.3
137	86.9	78.5	155.7	81.5	90.5	124.6	77.0	50.0

TABLE IV
CRANIAL MEASUREMENTS AND INDICES (AVERAGE AND EXTREME RANGE)

	SEMANGS								SAKAIS											
	HAMI			SEMAN			PO-KLO				JEHEHR				MAI DARAT					
	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least
Length .. .. .	..	..	..	..	13	188	184	179	7	192	186	176	4	196	184	170	34	193	183	170
Breadth .. .. .	..	..	..	..	13	150	143	137	7	150	146	140	4	146	143	140	34	151	142	130
Cephalic Index ..	..	..	..	..	20	81.1	77.7	74.5	10	85.2	78.1	73.7	9	82.4	77.6	73.8	34	82.6	78.3	73.4
Projections—																				
Vertex to Chin ..	3	222	218	214	10	224	213	207	7	230	216	201	4	229	210	195	34	232	213	188
Do. Tragus ..	3	134	129	126	10	135	130	126	7	134	128	123	4	135	127	122	34	141	127	110
Vertical Index ..	..	..	..	..	10	73.3	70.5	67.7	7	71.6	68.5	65.2	4	73.5	69.3	64.9	34	78.1	70.4	60.5
Cephalic Module ..	..	..	..	..	10	156.0	152.8	150.3	10	155.7	152.7	149.3	9	161.8	152.8	145.0	34	158.0	150.4	139.0
Vertex to Nasion ..	3	124	119	115	10	114	110	101	7	120	111	102	4	117	107	97	34	122	109	96
Nasion to Mouth ..	3	60	55	53	10	66	62	60	7	74	67	60	4	69	63	58	34	80	64	54
Mouth to Chin ..	3	49	44	40	10	47	41	36	7	42	39	33	4	47	40	32	34	53	41	33
FACE—Biszygomantic																				
Breadth .. .. .	..	..	..	..	10	143	135	125	7	140	136	132	4	145	138	130	34	147	135	125
Bigonial Breadth ..	3	115	113	112	3	134	130	127	..	..	..	..	..	..	..	..	34	136	125	110
Bigonial Index ..	..	..	..	..	3	97.1	96.5	96.1	..	..	..	..	..	..	..	..	34	100	92.8	85.3
External Biorbital ..	3	115	111	105	3	112	108	103	..	..	..	..	..	..	..	..	34	127	112	102
Do. Biocular ..	3	98	96	93	3	98	97	94	..	..	..	..	..	..	..	..	34	106	98	83
Internal Biocular ..	3	36	32	28	3	30	29	28	..	..	..	..	..	..	..	..	34	42	33	26
Biorbital-nasal Arc ..	..	..	..	..	3	143	136	129	..	..	..	..	..	..	..	..	34	147	130	115
Biorbital-nasal Index ..	..	..	..	..	3	117.9	112.9	108.3	..	..	..	..	..	..	..	..	34	131.9	116.1	107.3
Superciliary Arc ..	3	141	139	115	3	155	153	152	..	..	..	..	..	..	..	..	34	179	151	133
Nasion to Chin (<i>direct</i>) ..	..	..	..	..	10	110	104	99	7	115	105	100	4	106	102	94	34	119	107	95
Facial Index .. .. .	..	..	..	..	17	84.0	78.5	72.1	10	84.9	76.5	71.6	7	83.2	74.8	68.1	34	88.2	79.3	73.1
NOSE—Height	3	40.5	38	34	18	46	41.2	36	7	48	43.3	39	4	45	42.8	39	33	50.7	43.7	37.5
Breadth	3	42	41	39.5	13	46	40.7	36.5	7	44	40.4	31	4	43	41	39	33	46	40.0	36.3
Nasal Index	3	123.5	107.8	97.5	20	108.8	97.1	81.3	10	102.3	95.7	81.9	9	102.5	95.4	88.6	33	111.8	92.9	79.0
EAR—Length, R	3	57	55	54	..	..	..	..	..	..	..	..	..	..	..	..	27	72	59	51
Do. L	3	57	54	52	..	..	..	..	..	..	..	..	..	..	..	..	27	70	59	51
Breadth, R	3	31	30	28	..	..	..	..	..	..	..	..	..	..	..	..	27	35	31	27
Do. L	3	32	29	26	..	..	..	..	..	..	..	..	..	..	..	..	27	35	30	28
Aural Index	3	57.8	54.1	51.0	..	..	..	..	..	..	..	..	..	..	..	..	27	67.1	52.6	45.8

TABLE IV (CONTINUED)

	SAKAIS—Continued				COAST FOLK OF TRANG								SOUTH PERAK MALAYS			
	ORANG BUKIT				SAMSAMS				ORANG LAUT KAPPIR							
	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least
Length	10	190	182	172	15	193	180	170	4	201	189	180	36	198	182	173
Breadth	10	152	144	134	15	158	151	145	4	158	154	151	36	162	149	141
Cephalic Index..	10	85'5	79'6	73'7	15	89'8	83'7	77'7	4	86'9	82'3	76'2	37*	90'9	82'3	76'2
Projections—																
Vertex to Chin ..	10	242	226	213	15	239	229	211	4	234	223	218	36	249	226	207
Do. Tragus ..	10	136	130	121	15	138	133	123	4	140	135	132	36	146	135	119
Vertical Index ..	10	77'1	71'9	66'5	15	78'6	73'8	68'4	4	76'9	71'9	67'2	37	78'7	73'9	68'1
Cephalic Module	10	156'0	152'1	145'7	15	160'0	154'8	150'3	4	163'0	159'1	154'7	36	164'3	155'4	146'3
Vertex to Nasion ..	10	125	118	113	15	129	119	102	4	117	110	104	36	130	114	95
Nasion to Mouth ..	10	78	71	64	15	78	68	55	4	72	68	65	36	85	69	56
Mouth to Chin ..	10	45	38	30	15	48	42	35	4	47	45	40	36	52	43	36
FACE—Bizygomatic																
Breadth ..	10	148	141	132	15	148	133	129	4	152	141	135	36	150	139	120
Bigonial Breadth ..	10	138	131	119	..	..	..	..	..	..	..	..	36	141	127	110
Bigonial Index ..	10	96'1	92'8	87'1	..	..	..	..	..	..	..	..	37	95'3	91'6	84'6
External Biorbital	10	124	115	107	..	..	..	..	..	..	..	..	36	131	116	102
Do. Biocular ..	10	103	95	83	..	..	..	..	..	..	..	..	36	106	93	84
Internal Biocular ..	10	39	35	30	..	..	..	..	..	..	..	..	36	41	32	28
Biorbito-nasal Arc	..	..	..	..	..	..	..	..	..	..	..	..	36	157	134	112
Biorbito-nasal Index	..	..	..	..	..	..	..	..	..	..	..	..	37	125'5	115'9	104'5
Superciliary Arc..	..	..	..	..	..	..	..	..	..	..	..	..	36	178	157	132
Nasion to Chin (<i>direct</i>) ..	10	174	169	164	15	181	168	97	4	123	113	80'5	36	139	116	97
Facial Index ..	10	80'4	77'4	70'3	15	92'5	77'6	69'0	4	89'3	80'5	75'6	37	98'5	83'8	74'6
NOSE—Height ..	10	50	44'2	41'5	15	52	46'0	37	3	52	47	44	36	52'5	47'7	41'3
Breadth	10	43	38'9	33'5	15	44	39'9	36	3	43	41	37	36	43'7	35'8	33'7
Nasal Index ..	10	103'8	88'0	76	15	105'7	87'0	73'2	3	91'5	86'1	82'7	37	90'9	81'2	71'4
EAR—Length, R ..	..	..	..	..	..	..	..	..	..	..	..	..	36	73	62	52
Do. L ..	..	..	..	..	..	..	..	..	..	..	..	..	36	72	62	52
Breadth, R ..	..	..	..	..	..	..	..	..	..	..	..	..	36	40	32	26
Do. L ..	..	..	..	..	..	..	..	..	..	..	..	..	36	38	32	26
Aural Index ..	..	..	..	..	..	..	..	..	..	..	..	..	37	62'5	52'1	40

* Throughout this series the *indices* of the very diminutive individual, No. 123, have been included, but not the absolute measurements.

TABLE VA
BODY AND LIMB MEASUREMENTS (AVERAGES AND EXTREME RANGE)

	SEMANGS								SAKAIS			
	HAMI				SEMAN				PO-KLO			
	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least
Stature	3	1529	1507	1482	17	1607	1528	1372	10	1574	1548	1477
Span	3	1551	1520	1466	17	1577	1520	1384	10	1635	1554	1445
Sitting Height	3	799	807	814	10	827	791	755	..	..	..	..
Kneeling "	3	1144	1126	1089	10	1161	1139	1107	..	..	..	..
Umbilical "	3	898	882	861	10	915	902	867	..	..	..	..
BODY SEGMENTS												
Head	3	232	225	217	10	225	216	207	..	..	..	..
Neck	3	75	65	57	10	80	63	50	..	..	..	..
Trunk	3	522	517	511	10	542	514	479	..	..	..	..
Thigh	3	330	313	290	10	382	348	330	..	..	..	..
Leg	3	323	318	311	10	347	312	280	..	..	..	..
Malleolar Height	3	74	69	64	10	81	74	72	..	..	..	..
Length of Lower Limb	3	715	701	683	10	764	736	693	..	..	..	..
" Upper Limb	3	671	654	622	10	687	663	618	7	685	660	615
" Upper Arm	3	236	227	210	10	260	245	228	7	261	244	219
" Forearm	3	262	252	236	10	250	239	230	7	256	240	222
" Hand	3	177	176	174	10	191	180	170	7	190	177	166
" Foot	3	228	226	225	10	238	231	219	7	245	230	215
Breadth at Shoulders	3	374	371	367	6	390	378	356	..	..	..	..
" Hips	3	270	266	262	6	290	276	266	..	..	..	..
Girth of Chest—At Rest	3	817	800	792	5	873	803	770	..	..	..	..
Expanded	3	848	833	825	5	898	833	791	..	..	..	..
Deflated	3	794	777	765	5	812	774	740	..	..	..	..
Circumference of Leg—												
Maximum Supramalleolar	3	294	280	266	5	330	282	226	..	..	..	..
Minimum Supramalleolar	3	174	172	170	5	195	187	169	..	..	..	..

TABLE V_B
AVERAGES AND EXTREME RANGE OF BODY AND LIMB MEASUREMENTS—
RELATIVE TO STATURE—AND OF INDICES

	SEMANGS								SAKAIS			
	HAMI				SFMAN				PO-KLO			
	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least
Span .. .. .	..	..	..	..	10	1020	1006	983	7	1006	991	973
Span	3	1026	1008	989	17	1020	995	954	10	1043	1005	973
Sitting Height	3	539	535	532	10	533	518	504	..	..	..	..
Kneeling „	3	748	743	735	10	759	746	729	..	..	..	..
Umbilical „	3	587	584	580	7	609	591	580	..	..	..	..
BODY SEGMENTS												
Head	3	153	149	142	10	149	141	134	..	..	..	..
Neck	3	49	43	38	10	54	41	33	..	..	..	..
Trunk	3	345	346	341	10	355	337	316	..	..	..	..
Thigh	3	216	208	196	10	248	228	214	..	..	..	..
Leg	3	218	211	203	10	227	204	190	..	..	..	..
Malleolar Height	3	48	46	42	10	53	49	46	..	..	..	..
Length of Lower Limb	3	468	465	461	10	496	481	467	..	..	..	..
„ Upper Limb	3	444	434	420	10	444	434	414	7	416	406	414
„ Upper Arm	3	158	151	142	10	171	160	153	7	170	158	139 (1 ¹)
„ Forearm	3	171	167	160	10	162	156	150	7	163	154	143
„ Hand	3	119	117	114	10	123	117	110	7	123	114	110
„ Foot	3	164	155	147	10	154	151	144	7	156	149	143
Breadth at Shoulders	3	251	246	240	6	255	246	229	..	..	..	..
„ Hips	3	182	176	173	6	188	180	171	..	..	..	..
Girth of Chest—At Rest	3	541	531	518	5	567	528	496	..	..	..	..
Expanded	3	561	553	540	5	583	547	510	..	..	..	..
Deflated	3	525	515	500	5	540	509	483	..	..	..	..
Circumference of Leg—												
Maximum Supramalleolar	3	199	185	171	5	221	186	147	..	..	..	..
Minimum Supramalleolar	3	118	115	113	5	127	123	115	..	..	..	..
INDICES												
Interbrachial	3	112.6	111.1	109.2	17	102.8	97.8	88.3	7	112.1	98.3	84.4
Intercrural	3	112.2	108.3	94.0	17	105.1	89.5	79.8	3	101.6	95.7	92.5
Intermembral	3	77.5	75.8	72.9	10	76.1	73.1	68.5	..	..	..	..
Hand : foot	3	77.9	75.5	71.6	10	79.9	77.7	73.3	7	79.9	76.5	71.5
Girdle	3	72.6	71.9	70.9	6	78.4	72.8	68.4	..	..	..	..
Calf	3	63.9	61.3	59.0	5	85.4	69.0	57.6	..	..	..	..

Both in this case and in the case of the Semang, the average span on the first line is that of men whose arms also are measured.

TABLE VA
BODY AND LIMB MEASUREMENTS (AVERAGES AND EXTREME RANGE)

	SAKAIS—Continued								SOUTH PERAK MALAYS			
	JEHEHR				MAI DARAT							
	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least
Stature	9	1590	1542	1439	34	1638	1524	1411	36	1763	1594	1488
Span	9	1638	1583	1497	34	1707	1565	1420	35	1852	1699	1441
Sitting Height .. .. .	..	..	..	..	26	861	804	732	36	899	825	752
Kneeling " .. .. .	..	..	..	..	26	1231	1140	1064	36	1286	1185	1105
Umbilical " .. .. .	..	..	..	..	26	972	904	829	36	1122	962	828
BODY SEGMENTS												
Head .. .. .	..	..	..	..	26	240	216	204	36	246	227	203
Neck .. .. .	..	..	..	..	26	91	68	53	36	89	72	49
Trunk .. .. .	..	..	..	..	26	561	521	468	36	592	532	492
Thigh .. .. .	..	..	..	..	26	394	336	301	36	422	356	285
Leg .. .. .	..	..	..	..	26	351	312	257	36	391	333	296
Malleolar Height .. .. .	..	..	..	..	26	79	74	69	36	86	76	68
Length of Lower Limb .. .. .	..	..	..	..	36	782	722	647	36	880	764	652
" Upper Limb	4	722	688	631	26	717	672	602	36	785	710	650
" Upper Arm	4	262	248	224	26	282	252	212	36	295	266	238
" Forearm	4	273	248	224	26	262	242	215	36	288	256	220
" Hand	4	204	192	183	26	186	177	163	36	206	189	173
" Foot	4	254	243	230	26	243	229	217	36	267	242	222
Breadth at Shoulders .. .. .	..	..	..	..	26	441	394	354	36	445	399	320
" Hips .. .. .	..	..	..	..	26	307	279	250	36	329	288	255
Girth of Chest—At Rest .. .. .	..	..	..	..	26	920	824	745	35	909	808	715
Expanded .. .. .	..	..	..	..	26	963	848	780	36	944	839	750
Deflated .. .. .	..	..	..	..	25	873	775	717	35	873	772	683
Circumference of Leg— Maximum Supramalleolar .. .. .	..	..	..	..	26	344	312	278	36	36	323	277
Minimum Supramalleolar .. .. .	..	..	..	..	26	203	188	170	63	36	200	173

TABLE Vb
AVERAGES AND EXTREME RANGE OF BODY AND LIMB MEASUREMENTS—
RELATIVE TO STATURE—AND OF INDICES

	SAKAIS—Continued								SOUTH PERAK MALAYS			
	JEHEHR				MAI DARAT							
	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least	No. of observations	Greatest	Mean	Least
Stature .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Span	9	1050	1006	1003	34	1070	1007	968	35	1068	1008	957
Sitting Height .. .. .	..	..	..	..	26	559	507	507	36	564	500	486
Kneeling " .. .. .	..	..	..	..	26	773	747	727	36	756	743	729
Umbilical " .. .. .	..	..	..	..	26	620	595	572	36	616	602	556
BODY SEGMENTS												
Head .. .. .	..	..	..	..	26	159	141	128	36	152	142	128
Neck .. .. .	..	..	..	..	26	56	44	36	36	59	45	31
Trunk .. .. .	..	..	..	..	26	361	341	319	36	362	332	312
Thigh .. .. .	..	..	..	..	26	249	220	204	36	250	225	192
Leg .. .. .	..	..	..	..	26	226	204	178	36	225	208	186
Malleolar Height .. .. .	..	..	..	..	26	52	42	43	36	54	48	40
Length of Lower Limb.. ..	..	..	..	..	26	494	473	444	36	518	480	439
" Upper Limb	4	460	447	434	26	459	439	417	36	471	445	417
" Upper Arm	4	168	161	158	26	180	165	146	36	182	167	154
" Forearm	4	174	161	154	26	168	159	150	36	172	161	143
" Hand	4	130	125	119	26	126	116	103	36	126	117	107
" Foot	4	163	159	152	26	159	150	142	36	162	152	142
Breadth at Shoulders .. ..	..	..	..	..	26	289	258	224	36	286	250	207
" Hips .. .. .	..	..	..	..	26	204	183	169	36	198	180	162
Girth of Chest—At Rest .. ..	..	..	..	..	26	603	533	478	35	595	507	446
Expanded .. .. .	..	..	..	..	26	631	554	496	36	608	526	476
Deflated .. .. .	..	..	..	..	25	573	508	464	35	558	470	427
Circumference of Leg— Maximum Supramalleolar .. ..	..	..	..	..	25	238	205	186	36	242	202	172
Minimum Supramalleolar .. ..	..	..	..	..	26	140	123	108	36	147	125	112
INDICES												
Interbrachial	9	109'4	100'3	89'5	26	106'1	96'7	87'1	36	103'3	96'4	78'6
Intercrural .. .. .	..	..	..	..	26	113'1	93'0	78'9	36	104'3	93'8	79'4
Intermembral .. .. .	..	..	..	..	26	83'0	76'3	71'6	36	83'4	75'9	71'1
Hand: foot	4	81'4	79'0	74'8	26	83'3	77'4	73'1	36	83'2	80'1	75'0
Girdle .. .. .	..	..	..	..	26	74'4	70'7	63'7	36	89'7	74'7	65'7
Calf .. .. .	..	..	..	..	25	65'9	60'2	55'4	36	68'2	60'2	57'8

SECTION II

OBSERVATIONS ON THE SKELETON

The work of describing the skeletons in our collection has been carried out at the University of Edinburgh, in the laboratory of Professor Sir WILLIAM TURNER, to whom we are indebted not only for the loan of instruments and the use of a room, but also for much kindly advice and assistance. The measurements, terminology, and methods that we have adopted are those employed by him in his *Challenger Reports* and subsequent papers, especially his *Contributions to the Craniology of the People of the Empire of India*.¹ Except in the case of the specimens from Trang we have both taken the measurements, and so have checked the figures recorded. Our treatment is the one followed in our other papers, that of dismissing comparisons and discussions until the final part.

PART I. SEMANG AND SAKAI TRIBES

(A) SEMANGS

Semán; *Grit*, Upper Perak, (Plate XVI, figs. 1, 2, 3).

The skeleton representing this tribe was procured by one of us (N. A.) from the jungle in the vicinity of Grit (*antea*, p. 20). When discovered the body was in a very perfect state of preservation, a fungus having grown over the corpse and permeated even the internal organs so as practically to have made a cast of them. The person was said to have died a year previously.

Skulls. The condition of the sutures and the alveolar border of the jaws indicates an aged person; the skull is remarkably small and light, and all the bony ridges are feebly developed. It is that of a female, as is proved by external evidence.

Norma verticalis. The outline is a broad ovoid, and the curve from the frontal to the parietal region is regular, there being no marked lateral protuberance of the central part of the latter. The cephalic index (79·8) is practically sub-brachycephalic; but the downward slope of the post-parietal

1. *Trans. Roy. Soc., Edinburgh*, vol. XXXIX, part 3, no. xxviii, 1899; and vol. XL, part 1, no. vi, 1901.

region is not nearly so abrupt as in typical brachycephalic skulls. The side walls of the cranium are slightly convex and the roof is flat, the sagittal ridge being feeble. There is a slight depression in the post-parietal region, embracing the sagittal suture in its main axis, and possibly of artificial origin, though it is a common feature in the skulls of all the wild tribes represented in our collection, and also in those of the Andamanese in the collection of the Edinburgh University Museum. The frontal longitudinal arc is considerably longer than the parietal.

Norma lateralis. Prognathism is slight. The nasal bones are relatively flat, and the nasion is comparatively little depressed. The glabella and supra-orbital ridges are not prominent, and the forehead, though low, is fairly vertical. The roof of the skull is feebly arched. The occipital squama is inclined to be convex outwards, but does not form a definite boss, and the cerebellar part of the occiput, which is relatively of considerable extent, is convex downwards. The mastoids are fairly stout, but the zygomata are slender.

Norma facialis. The face is broad and flat, the approximate **maxillo-facial index** being 46; but atrophy of the alveoli makes it difficult to obtain the measurements with exactitude. The external nares are very broad, the **nasal index** (59.1) being strongly platyrrhine. The floor of the nasal cavity is not separated from the upper jaw by a ridge, but there is no transverse depression in its place. The orbits are mesoseme, their **index** being 86.8.

Norma occipitalis. The outline is somewhat rounded. The ridges and depressions seen in this view are not conspicuously developed, but the conceptacula cerebelli are protuberant.

Sutures. The sutures, which have commenced to be obliterated at several points, are fairly complex, though the denticulations are short. There is a small Wormian bone in each lambdoid suture.

Jaws and Teeth. The lower jaw has atrophied considerably, owing to the absorption of the alveoli of the molars and premolars; the same has occurred in the upper jaw. The palate is very long and narrow (dolichuronic), its **index** being 96.2. The third molar on the left side of the upper jaw has evidently persisted longer than the other teeth of the same part of the mouth, and was probably present at death; there are indications that the corresponding tooth was never developed on the right side of the jaw. The teeth themselves have all disappeared.

The skull exhibits marked microcephaly, its cubic capacity, determined with shot by Sir WILLIAM TURNER's method,¹ being 1,150 c.c. It is phaenozygous,

1. *Reports H.M.S. Challenger*, part XXIX, 1884.

and rests behind on the posterior border of the foramen magnum. The basibregmatic height is less than the breadth, and the **vertical index** is **76.8**.

Mani; borders of Jalor and Rhaman (Plate XVI, figs. 4, 5, 6).

It is not certain that the Mani tribe is absolutely identical with the one we have described under the name Hami; but its headquarters do not lie more than twenty-five miles distant, as the track leads, from the headquarters of the Hami. It is represented in our collection by a calvaria, from the Rhaman side of the border, and by a fairly complete skeleton from a cave on the Jalor side. The calvaria we found ourselves; it was lying on the ground in a depression at the base of a limestone cliff, distant about two miles from Ban Kassôt (*antea*, p. 8). The Siamese *Nai-ban*, or headman, of this village told us that it was the skull of a Semang man in middle life, who had fallen from a tree while collecting honey and had subsequently died of 'fever,' his relatives having taken him to the base of the cliff for shelter.

The skeleton was obtained by the *môr*, or medicine-man, of the same village, and was proved to be that of a Semang, not only by the position in which it was found, but also by the character of the hair—a considerable quantity of which remained. The extraordinary state of preservation of the body has already been noted; it did not appear to be due to any fungoid growth, and was the more remarkable, seeing that the caves of Jalor are generally very damp.

Skulls. The more perfect of the two skulls, No. 3, is that of a person in the prime of life, and is certainly female; while the calvaria, No. 2, exhibits rather ill-defined male characteristics, and appears, judging from the condition of the sutures, to represent a somewhat older individual.

Norma verticalis. Both skulls are nearly oval in outline, but No. 2 has the central part of the parietal region very prominent on either side. No. 3 is mesaticephalic, and No. 2 just dolichocephalic, their respective **indices** being **76.5** and **75.0**. The slope of the post-parietal region in both is gradual, and the side walls of the cranium are almost vertical. In No. 2 there is a well-defined sagittal ridge and the vault of the cranium is roof-shaped, but that of No. 3 is fairly well rounded. In the latter skull there is a long narrow depression, embracing the posterior portion of the sagittal suture, but there is no depression or marked flattening of the kind in this part of the male calvaria. In both specimens the parietal longitudinal arc is relatively short.

Norma lateralis. In No. 3 prognathism is present but not excessive; the nasal bones are relatively flat, and the nasion is little depressed. The forehead

is low and receding in both specimens, but the glabella and supraorbital ridges are not prominent in either. In both the occipital squama is inclined to be flat, but in No. 2 the external occipital protuberance is produced into a hook-shaped process some 5 mm. in length. In No. 3 the cerebellar part of the occiput is relatively large and markedly convex downwards; the mastoids and zygomata are feeble.

Norma facialis. The face in No. 3 is wide, the **maxillo-facial index** being **51.2**, and the **complete facial index**, **85.1**; it is rather more arched than in No. 1. The external nares are very broad, the **nasal index**, **58.7**, being strongly platyrrhine; the ridge separating the floor of the nasal cavity from the upper jaw is feebly developed. The orbits are microseme, their **index** being **80**.

In the *norma occipitalis* the characters are very similar to those of No. 1, except for the individual peculiarity in the external occipital protuberance of No. 2.

Sutures. Sutures are very complicated in both specimens; but the denticulations are short, and there are no accessory ossicles except an epipteric bone on the right side of No. 3.

Jaws and Teeth. The lower jaw of No. 3 is stout, having the muscular impressions well marked; the elevation of the ascending ramus is low and the sigmoid notch is shallow. The chin is prominent. The palate is narrow, its **index** being **101.8**. The teeth are in excellent condition, and none have been lost during life. Their crowns are of considerable size, and have been worn almost flat; their sides are stained black, probably through betel chewing. The third molar has been well developed on both sides of both jaws.

Both skulls would have been microcephalic, the cubic capacity of No. 3 being only 1,030 c.c. No. 3 is phaenozygous and rests behind on both borders of the foramen magnum, which is unusually small. The height is considerably greater than the breadth, and the **vertical index** is **82.1**.

Pangban; Hulu Pabang.

We have included in our table certain measurements from an imperfect skull preserved in the Raffles Museum at Singapore, but have had no opportunity of comparing it with other specimens or checking the measurements. It is labelled as being the skull of a 'Pangan' chief, named Saga, from Hulu Pahang. The **cephalic index** (**73.6**) is dolichocephalic; the height is slightly greater than the breadth, the **vertical index** being **75.8**; the **nasal index** (**57.7**) is platyrrhine, and the orbits are highly megaseme, the **index** being **95.2**.

Summary of Cranial Characters of Semang specimens.

The skulls before us range from the highest division of mesaticephaly to dolichocephaly, but the sum of their characters is surprisingly constant. They have many primitive features in common, but, without a lengthy discussion, which must be deferred for the present, it is difficult to say whether they approach the Negrito type, as exemplified by the Andamanese, or the Dravidian, as exemplified by the Veddahs, more closely; undoubtedly they present resemblances to, and differences from, both.

Appendicular Skeleton.

The appendicular skeleton of the Semangs is represented by the pelves and long bones of Nos. 1 and 3, only the left fibula of the Mani specimen being absent. We will describe the two specimens together; both, it will be remembered, are female.

Upper Limb. The bones of the upper limb are short and slender, having the muscular impressions feebly marked, but are otherwise well proportioned. The longitudinal curve of the clavicles is normal. The scapulae are very slight; their axillary border is concave in the long diameter; the suprascapular notch is very shallow in No. 1, while in No. 3 it is moderately deep; the indices will be found in the table.

The humeri offer no particular feature of interest beyond the general characters already noted; they have no intercondylar foramen, and the flattening of the lower part of the shaft is relatively slight. The **radio-humeral index**, taking the mean of the two sides, is **78·7** for the Semán specimen, and **81·8** for the Mani, the difference being due, almost entirely, to the greater length of the radius in the latter.

Lower Limb. The linea aspera of the femur is prominent, the pilastral indices and the measurements, which are taken opposite the nutrient foramen of the shaft, being:—

	No. 1 (Semán)	No. 3 (Mani)
Pilastral Index ...	106·2 ...	109·5
Transverse Diameter	R. 20·7 mm. ; L. 21 mm.	R. 21 mm. ; L. 21 mm.
Anterior-Posterior Diameter	R. 22·2 mm. ; L. 22 mm.	R. 23 mm. ; L. 23 mm.

TABLE VI
SEMANGS AND SAKAIS (CRANIAL MEASUREMENTS AND INDICES)

	SEMANGS				SAKAIS						
	SEMAN	MANI		PANG-HAN	JEHEHR				MAI DARAT		
Collection Number	1	2	3	Singapore Mus. Adult	4	5	6	7	8	9	10
Age	Aged	Adult	Adult		Aged	Adult	Adult	Aged	Adult	Aged	Adult
Sex	♀	♂	♀	♂	♀	♂	♂	♀	♂	Metopic ♀	♀
Cubic Capacity	1150	..	1030	..	1275	1300	1365	1335	1350	1275	..
Glabello-occipital Length	168	172	162	178	171	176	191	178	186	172	170
Basal-bregmatic Height	129	..	133	135	133	137	136	133	139	126	126
Minimum Frontal Diameter	93	94	89	88	94	92	97	99	94	97	86
Stephanic Diameter	111	97	100	..	110	100	105	110	103	109	97
Asterionic "	100	98	96	..	104	101	105	110	106	105	94
Greatest Parieto-squamous Breadth ..	134	129	124	131	134	137	136	139	129	136	124
Horizontal Circumference	478	..	455	490	496	502	533	501	508	485	466
Frontal Longitudinal Arc	127	119	116	..	118	123	125	119	131	117	122
Parietal " " " "	118	111	116	..	230	137	139	128	129	121	117
Occipital " " " "	100	..	102	..		100	115	107	113	107	113
Total " " " "	345	..	334	..	348	360	379	354	373	345	352
Vertical Transverse " " " " ..	284	..	274	..	293	302	298	285	297	292	276
Basal Transverse Diameter	118	..	113	..	117	119	126	120	117	116	104
Vertical Transverse Circumference ..	402	..	387	..	410	421	424	405	414	408	380
Length of Foramen Magnum	34	..	28	..	33	34	38	36	40	34	36
Basal-nasal Length	94	..	99	104	98	100	107	96	103	97	..
Basal-alveolar Length	92	..	98	..	..	98	108	97	102	94 ap.	..
Total Longitudinal Circumference ..	473	..	461	..	479	494	524	486	518	476	..
Bizygomatic Breadth	124	..	121	107 (f)	128	134	136	..	127	129	..
Bimalar " " " "	115	..	111	..	106	103	112	102	103	103	..
Nasio-mental Length .. .. .	..	..	103	..	..	..	..	..	114	..	..
Nasio-alveolar Length	57	..	62	..	60	66	66	64	66	57	..
Nasal Height	44	..	46	45	47	51	47	46	52	44	..
Nasal Width	26	..	27	26	25	26	27	24	26	30	..
Orbital Width	38	..	40	42	39	39	38	38	38	37	..
Orbital Height	33	..	32	40	34	32	33	33	32	30	..
Palato-maxillary Length	53	..	56	..	..	58	..	..	..	48	..
Palato-maxillary Breadth	51	..	57	..	..	56	..	..	..	57	..
LOWER JAW	Symphysial Height .. .. .	..	28	..	..	..	..	..	32	..	..
	Coronoid " " " "	54	..	51	..	..	..	50	60	50	50
	Condylod " " " "	54	..	56	..	..	..	55	68	62	..
	Gonio-symphysial Length	84	..	80	..	..	..	79	89	79	76
	Bigonial Width	91	..	91	..	..	..	92	95	97	82
	Breadth of Ascending Ramus ..	33	..	34	..	..	..	33	35	25	32
INDICES											
Vertical Index	76.8	..	82.1	75.8	76.9	78.0	71.8	74.8	74.8	73.3	74.0
Cephalic " " " "	79.8	75.0	76.5	73.6	77.5	77.8	71.8	78.0	69.4	79.1	78.9
Gnathic " " " "	98.0 ap.	..	99.0 ap.	..	..	98.0 ap.	100.9 ap.	100.0 ap.	99.0 ap.	97.0 ap.	..
Nasio-mental complete Facial Index .. .. .	..	..	85.1	..	..	..	..	..	89.8	..	..
Maxillo Facial Index	46.0	..	51.8	..	46.9	49.8	48.5	..	48.1	41.0	..
Nasal Index	89.2	..	87.7	87.7	83.8	81.0	87.5	80.8	80.0	88.1	..
Orbital " " " "	86.8	..	86.8	87.1	84.0	87.0	87.0	87.0	84.8	82.1	..
Palato-maxillary Index	98.8	..	101.8	..	..	96.5	..	..	..	100.9	..
Bigonial Index	73.4	..	73.1	..	..	..	..	..	74.7	95.8	..

Platymery occurs in both specimens, the indices and measurements, which are taken on the upper third of the shaft, being :—

	No. 1	No. 3
Platymeric Index ...	95·9 ...	97·8
Transverse Diameter	R. 21·5 mm. ; L. 21·5 mm.	R. 24 mm. ; L. 23 mm.
Anterior-Posterior Diameter	R. 20·5 mm. ; L. 20·7 mm.	R. 23 mm. ; L. 23 mm.

The extensor area of the neck is barely present in No. 1, and but slightly developed in No. 3. The inter-trochanteric line is not prominent, and there is no third trochanter ; the gluteal ridge is feeble. The popliteal region is slightly concave in its main axis.

The shafts of the tibiae are platycnemic, but this feature is not so marked as in some other specimens in our collection ; the indices and measurements, which are taken on the central part of the shaft, are :—

	No. 1	No. 3
Platycnemic Index ...	69·6 ...	73·0
Transverse Diameter	R. 16 mm. ; L. 16 mm.	R. 18 mm. ; L. 17 mm.
Anterior-Posterior Diameter	R. 23 mm. ; L. 23 mm.	R. 24 mm. ; L. 24 mm.

The head of the tibia is slightly retroverted in No. 3, markedly so in No. 1 ; in both specimens the external condylar surface of the head is convex, and the internal condylar surface, concave. In the inferior extremity of this bone, both extra astragalar and extra fibular facets are well developed.

The **tibio-femoral index** of No. 1 is **80·8**, and of No. 3, **83·8** ; the **humero-femoral index** of No. 1 is **69·5**, and of No. 3, **68·6**. The **inter-membral index** of No. 1 is **67·9**, and of No. 3, **67·3**.

The limb-bones of these two skeletons indicate well-proportioned but very short and slender persons, probably below 1,400 mm. (4 feet 7 inches) in stature ; they exhibit many characters usually associated with the lower races of mankind, but hardly peculiar to one stock or another.

TABLE VII

SEMANGS AND SAKAIS (MEASUREMENTS OF LIMB BONES AND INDICES)

	SEMANGS				SAKAIS					
	1		3		4		7		9	
	SEMAN		MANI		JEHEHR		JEHEHR		MAI DARAT	
	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.
FEMUR—										
Maximum Length	391	387	392	392	386	392	374	373	382	384
Oblique Length	388	384	388	388	382	387	373	372	378	382
TIBIA—										
Maximum Length	320	320	333	334	..	..	313	..	300	300
Condylø-Astragaloid Length ..	312	312	325	326	..	..	305	..	295	295
FIBULA	316	316	330	..	..	..	309	..	302 ap.	..
HUMERUS	271	267	270	267	269	265	..	265	272	266
RADIUS—										
To Tip of Styloid	212	212	219	220	..	..	211	..	199	196
To Base of Styloid	207	208	215	215	..	..	208	..	195	191
ULNA—										
To Tip of Styloid	231	228	236	233	..	..	..	..	211	212
To Articular Surface	227	222	235	232	..	..	..	..	211	212
CLAVICLE	121	123	124	124	..	..	..	123	..	110 ap.
SCAPULA—										
Height	89	87	86	86	..	..	..	85	84 ap.	83 ap.
Length	124	126	119	119	..	..	..	120	116 ap.	113 ap.
Infraspinous Length	88	89	92	90	..	..	..	93	82 ap.	84 ap.
Supraspinous Length	48	46	38	39	..	..	..	^A 39	40 ap.	38 ap.
INDICES										
Tibio-femoral	80'4	81'3	83'7	84'0	..	..	82'8	..	78'0	77'2
Humero-femoral	69'4	69'6	69'0	68'3	69'8	67'6	..	71'0	71'2	69'4
Radio-humeral	78'4	79'4	81'2	82'4	..	..	(79'6)	..	73'3	73'8
Intermembral	67'9	67'8	67'3	67'2	..	..	(69'4)	..	69'2	67'6
Scapular	71'8	69'1	72'1	72'1	..	..	..	70'8	72'3	73'4
Infraspinous	101'1	97'7	93'3	95'5	..	..	..	95'7	101'2	98'8
Supraspinous	54'0	52'9	44'2	46'3	..	..	..	45'9	47'6	45'9

Pelves. The two pelves are stoutly built, the translucent area of the alae being small and the remainder of the bone quite opaque. The alae are of considerable extent, but fairly vertical; the pectineal lines are rounded; the measurements and indices are given in the table:—

MEASUREMENTS AND INDICES OF PELVES

	Semán No. 1	Mani No. 3	Jehehr No. 4	Jehehr No. 7	Mai Darât No. 9
1 Breadth of Pelvis	238	236	...	...	223
2 Height of Pelvis	171	172	174	166	172
3 Between Ant. Sub. Iliac Spines ...	219	218	...	...	196
4 Between Post. Sub. Iliac Spines ...	70	81	...	...	...
5 Between Ischial Tubera	126	120	...	...	120
6 Vertical Diameter of Obturator Foramen	46	44	40	44	43
7 Transverse do. do do ...	33	33	30	32	36
8 Subpubic Angle	81°	89	...	...	84°
9 Transverse Diameter of Brim	111	124	...	...	121
10 Conjugate Diameter of Brim	109	109	...	...	107
11 Intertuberal Diameter	106	98	...	...	97
12 Depth of Pubic Cavity	78	97	...	...	79
13 Length of Sacrum (direct)	94	97	...	...	106
14 Length of Sacrum (along curve) ...	102	100	...	...	119
15 Breadth of Sacrum	106	102	...	...	105
Pelvic index	71·8	72·8	...	...	77·1
Brim index	98·6	87·9	...	...	88·5
Sacral index	88·7	94·1	...	...	100·9
Obturator index	71·7	75·0	75·0	72·7	73·7

Vertebral Column. In No. 3 the inferior part of the vertebral column, with the exception of the sacrum, is absent; in No. 1 it is practically complete. In the former specimen the centra spinous processes and left transverse processes of the fifth and sixth dorsal vertebrae, have become anchylosed together; while the right transverse processes have remained distinct, that of the fifth vertebra being also separated from the spinous process of the same bone by a jagged break, which does not appear to be due to any posthumous accident. Professor ANNANDALE, who has kindly examined the specimen, thinks that this curious condition may possibly be due to an accident during life, which has, to some extent, been repaired by natural processes; but it is difficult, if this be the case, to account for the absence of callus.

The following measurements of the lumbar vertebrae of No. 1 show the heights, anterior and posterior, of the centra; the mean lumbar index is 98.6 :—

	Anterior Height			Posterior Height		
First	...	23.5 mm	...	...	20 mm.	
Second	...	23 "	...	...	21.5 "	
Third	...	22.5 "	...	...	23 "	
Fourth	...	22 "	...	...	23 "	
Fifth	...	20 "	...	...	22 "	

(B) SAKAIS

Jehehr; Temongoh, Upper Perak (Plate XVIII, figs. 1, 2, 3).

This tribe is represented by four skulls, two of which are associated with imperfect sets of the long bones. The specimens were procured in the immediate vicinity of Temongoh, where No. 5 was found by one of us (N.A.) This skull was said by the Malays, who showed me its position, to be that of a Jehehr headman named Padang, whose body had been cast into the river by his followers and had been brought ashore by the current at the village bathing place. The three remaining specimens were collected during my four days' stay at Temongoh by an old Malay woman.

Skulls. Two of the skulls (Nos. 5 and 6) appear to be male and two to be female, the sexual characters being fairly well marked. The male specimens, judging from the condition of the sutures, represent individuals in the prime of life; while both female specimens show signs of considerable age.

Norma verticalis. The outlines of Nos. 4, 5, and 7 is a broad and regular ovoid, the development of the central part of the parietal region not being excessive; but No. 6 is oval, and somewhat squared in the frontal region. The mean **cephalic index** of the four specimens is 76.1, the extremes being 71.2 and 78.0. The slope of the post-parietal region is gradual, in No. 6 remarkably so. In all four specimens the vault of the cranium has a tendency to be roof-shaped; this is very marked in No. 6 and least conspicuous in No. 5. In No. 7 the bregma is protuberant. The side walls of the cranium are nearly vertical except in No. 5, in which they are decidedly convex. The circular or oval depression in the post-parietal region, so often noted in our collection, is present, or has its place taken by a localized flattening in every specimen representing this tribe. The parietal arc is considerably longer than the frontal.

Norma lateralis. Prognathism is more marked than the gnathic index would seem to show, especially in No. 7. The nasal bones are very flat and

the nasion is little depressed. The glabella and supraorbital ridges are prominent in the male specimens, especially in No. 6; the forehead is low and receding. The outline of the cranial vault, as seen in this view, is irregular, and feebly arched as a whole. The occipital squama is convex outwards, forming a distinct boss at the back of the skull; the cerebellar part of the bone is relatively large in Nos. 4 and 5, definitely convex downwards in Nos. 4, 5, and 7, and in No. 6 comparatively small and rather flat. The mastoids are somewhat stout, but the zygomata are slender.

Norma facialis. The face is broad and flat; in No. 4 it is impossible to take measurements for the facial index owing to the complete atrophy of the alveolar border, but the mean **maxillo-facial index** of the remaining three specimens is 48.2, the extremes being 46.9 and 49.2. The external nares are very broad, the **nasal index** is practically platyrrhine in every specimen; the mean in the four skulls is 52.8, and the extremes are 51 and 57.5. The floor of the nasal cavity is separated from the upper jaw by a transverse depression in Nos. 5 and 6, while the corresponding ridge is very feebly developed in Nos. 4 and 7. The orbits are either mesoseme or microseme, the mean **orbital index** being 85.8, and the extremes 82.0 and 87.1.

Norma occipitalis. The outline is rounded, except in the case of No. 6, in which it is definitely pentagonal. In Nos. 4 and 5 the conceptacula cerebelli are very prominent.

Sutures. The sutures are complicated in Nos. 4 and 7, but the denticulations are short; in both specimens there are numerous Wormian bones, and in No. 7 a large double epipteric is present on the left side.

Jaws and Teeth. The only lower jaw preserved is that of No. 7, and in this specimen the alveoli of the molars and premolars have been largely absorbed. The same atrophy occurs in the upper jaw, but is even more complete. In the upper jaw of No. 4 the alveolar ridge has been completely absorbed. In No. 5 the molars of the left side have been lost during life; but the third molar has been well developed on the right. In No. 6 the same loss has occurred on the left, and the third molar has been large and fully developed on the right. The teeth themselves have disappeared in all cases.

Except in one specimen, in which it is considerably less, the height of the cranium is very nearly the same as the width, the mean **vertical index** being 75.2. The crania are on the upper limit of microcephaly, the mean capacity of the male skulls being 1,332 c.c., and of the female 1,305 c.c. They are phaenozygous, and rest behind on the posterior border of the foramen magnum.

Summary of Cranial Characters of Jehehr Specimens.

• Although the cephalic index varies considerably, in form these four skulls are dolichocephalic, markedly so in the case of No. 6. As compared with our Semang specimens, they are heavy and coarse, and the characters which they have in common with Veddah skulls are more decided. How far these common characters arise from direct relationship is a question that must be discussed in a later part of the paper.

Appendicular Skeleton.

The appendicular skeleton of the Jehehr is represented by the innominate bones of Nos. 4 and 7, both females, and a few of the long bones of the same specimens.

Upper Limb. The two humeri of No. 4, and the left scapula, clavicle, and humerus, and the right radius of No. 5 have been preserved. In general characters these bones resemble those of the Semang specimens already described; the indices of the scapula (No. 7) are given in the table. The clavicle is even slighter, in proportion to its length, than those of Nos. 1 and 3, and its longitudinal curve is more pronounced, though not excessive. The right humerus of No. 4 has a pointed process above the inner condyle, measuring 7 mm. in length—a feature of great rarity in the skeletons of primitive races. The exact **radio-humeral index** cannot be given, as the two bones of the same side have not been preserved; but it was probably about 79·6. The humeri of No. 4 are porportionately more slender than those of any other specimen in the collection, but this is not the case with the radius.

Lower Limb. The two femora of both specimens, and the left tibia and fibula of No. 7 are present. The femora have the same general characters as those of the Semang skeletons described; the shafts are platymeric, and the linea aspera is prominent. The indices and the measurements, on which they are based, are as follows:—

	No. 4	No. 7
Platymeric Index	95·6	97·9
Transverse Diameter	R. 23 mm. ; L. 22 mm.	R. 25 mm. ; L. 23 mm.
Anterior-Posterior Diameter	R. 22 mm. ; L. 21 mm.	R. 23 mm. ; L. 24 mm.
Pilastral Index	121·5	107·0
Transverse Diameter	R. 18 mm. ; L. 19 mm.	R. 22 mm. ; L. 21 mm.
Anterior-Posterior Diameter	R. 22 mm. ; L. 23 mm.	R. 23 mm. ; L. 23 mm.

The extensor area of the necks of the femora is feebly developed. Though the gluteal ridge is prominent there is no accessory tubercle; the anterior

intertrochanteric line is in no way remarkable, and the popliteal region is almost flat in the line of its main axis. The tibia is platycnemic, the index and measurements being :—

Platycnemic Index	68.0
Transverse Diameter	16 mm.
Anterior-Posterior Diameter	23.5 mm.

The upper third of the shaft is markedly oblique, and the head is retroverted. The external condylar surface is convex, and the internal condylar surface concave. Extra astragalar and fibular facets are well developed, and the internal malleolus is very long. The **tibio-femoral index** of No. 7 is 81.8. The **humero-femoral index** of No. 4 is 68.8, and of No. 7, 71. The **intermembral index** cannot be taken exactly, as neither of the specimens includes a complete set of limb-bones from one side ; but it was probably about 69.4 in No. 7.

Pelves. In the absence of the sacra it is possible to say very little about the pelves, except that they are small ; that the translucent area in the alae is inconsiderable, and that the alae themselves have been moderately vertical.

Mai Darát; Batang Padang, South Perak (Plate XVII).

This tribe is represented by a fairly complete skeleton and two skulls, one of which lacks the facial region. The specimens were obtained, under our own supervision, from Sakai clearings in the Batang Padang district, Nos. 8 and 9 coming from the neighbourhood of Tapah, and No. 10 from Paku near Bidor.

A point of some interest is the fact that wherever the brass ornaments buried with the bodies had come in contact with them, a compound of copper had been formed which had preserved the flesh beneath it, more or less perfectly, though the bones were elsewhere dry, if they had not disappeared, as was occasionally the case.

Skulls. One of the skulls (No. 8) appears to be that of a male rather past middle life, while the other two specimens exhibit female characters, and were proved to have been the skulls of women by the ornaments buried with them (*antea*, p. 45).

Norma verticalis. The outline in No. 8 is a narrow oval ; in No. 9 a broad and regular ovoid ; No. 10 is, to some extent, intermediate, but the central part of the parietal region is very protuberant. The **mean cephalic index** is 73.8, but the individual indices show great variation, being 69

79.1, 72.9. The post-parietal slope is very gradual in No. 8, only moderately so in No. 9, and in No. 10, intermediate. The vault of the cranium is flat in No. 9, decidedly roof-shaped in No. 8, and rather less so in No. 10; in No. 8 there is a definite sagittal ridge. The side walls of the cranium are almost vertical in No. 8, somewhat convex in Nos. 9 and 10. The depression in the post-parietal region, noted in several of our skulls, is absent in Nos. 8 and 10, and is represented by a local flattening in No. 9. In Nos. 8 and 10 the frontal longitudinal arc is slightly longer than the parietal, and the reverse is the case in No. 9.

Norma lateralis. Prognathism is present, but not excessive, in Nos. 8 and 9. The external nares are wide, and the nasal bones flat, but these characters, which are very marked in No. 9, are less pronounced in No. 8 than in any other of our Sakai or Semang specimens. The glabella and superciliary ridges are not prominent in any of the three specimens, and the forehead is fairly vertical in Nos. 9 and 10, but low and retreating in No. 8. The outline is very flat in Nos. 8 and 9, somewhat arched in No. 10. The occipital squama is convex, forming a boss; the cerebellar part of the occiput is moderate in dimensions in Nos. 8 and 10, somewhat larger in No. 9. The mastoids are fairly stout in Nos. 8 and 9, somewhat feeble in No. 10. The zygomata are comparatively stout in No. 8, slender in No. 9.

Norma facialis. The face is broad and very flat in No. 9, the **maxillo-facial index** being only **41**; in No. 8 it is much longer and narrower and somewhat more arched, the same index being **48.1**, while the **complete facial index**, which could not be taken in No. 9 on account of atrophy of the lower jaw, is **89.8**. The **nasal index** in No. 8 is only mesorhine, **50.0**, but in No. 9 it is hyperplatyrhine, **68.1**. The **orbital indices** of Nos. 8 and 9 are **84.2** and **81.1**, respectively.

Norma occipitalis. The outline is oval in No. 8, fairly circular in Nos. 9 and 10. The conceptacula cerebelli are fairly prominent in No. 10, but less so in the other specimens.

Sutures. In all three specimens the sutures are fairly simple and have remained unossified, in spite of the great age indicated by the condition of the jaws in No. 9. This is the only metopic specimen in the collection. In No. 8 there are two small Wormian bones in the right lambdoid suture, and one each in the left lambdoid and the asteria. The conditions in No. 10 are somewhat similar.

Jaws and Teeth. The lower jaw is present in all three specimens; but in No. 9 it has become completely edentulous through age, even the alveolar border having been absorbed, while in No. 10 it is somewhat broken. In No. 8

it is fairly massive; the ascending ramus is comparatively short, and the sigmoid notch moderately shallow; the prominence of the chin in this specimen is considerable, though in No. 10 it is feebly marked.

The teeth are in good condition in No. 8, but in the left side the second premolar and the first molar have been lost during life, while the first and third molar have also disappeared on the right, apparently before death. The dentition has been that of a normal adult. The crowns of the teeth, both in Nos. 8 and 10, are large and have not been worn flat.

The height of the cranium in No. 8 is considerably greater than the breadth; in No. 10 it is slightly greater, and in No. 9 considerably less. The **vertical indices** are 74·8, 73·3, and 74·0.

The skull of No. 9 is microcephalic, the cubic capacity being 1,275 c.c., while No. 8 just reaches the lower limit of mesocephaly, having a capacity of 1,350 c.c. The skulls are phaenozygous and rest behind on the anterior border of the foramen magnum.

Summary of Cranial Characters of Mai Dardt Specimens.

The characters of these three skulls show such great individual variation, that the only possible summary of their characters is to say that they have few in common beyond a small cubic capacity and a decided dolichocephalic tendency. Their primitive features are, perhaps, less extreme than in the case of the Semang specimens.

Appendicular Skeleton.

The appendicular skeleton of No. 9, a female, is complete but for the loss of the right clavicle, as far as the larger bones are concerned.

Upper Limb. The scapulae are small and light, the axillary border is almost straight, and the supra-scapular notch is shallow. The indices are given in the table. The left clavicle is very slender, but the trapezoid lines and the conoid tubercle are well developed; the longitudinal curve is moderate. The humeri are relatively stout, and the radii and ulnae are extremely short as compared with the humeri, the **radio-humeral index** being only 73·5. This shortness, however, is to some extent more apparent than real, being partly due to the obliquity of the upper third of the shafts. There are no indications of disease, but the obliquity is so great in the ulna that on a tracing of the anterior view of the bone a straight line drawn in continuation of the outline near the centre of the shaft passes 15 mm. behind the posterior border of the tuberosity; while in the case of the radius, in which the curve is naturally directed in the opposite direction, a straight line drawn in the same way passes

3 mm. in front of the anterior border of the articular surface of the head. These measurements refer specially to the bones of the right arm, but are closely paralleled by those of the left.

Lower Limb. The bones of the lower limb are comparatively stout, and do not indicate any peculiarity comparable to that of the forearm. The linea aspera of the femur is very prominent, the pilastral index and the measurements from which it is derived being :—

Pilastral Index ...	117.9
Transverse Diameter	R. 23 mm. ; L. 23 mm.
Anterior-Posterior Diameter	R. 19 mm. ; L. 20 mm.

The platymeric index and corresponding measurements are :—

Platymeric Index ...	91.6
Transverse Diameter	R. 21 mm. ; L. 20.5 mm.
Anterior-Posterior Diameter	R. 23 mm. ; L. 22.5 mm.

The extensor area of the neck is not pronounced, and there is no third trochanter. The popliteal region is slightly concave in its main axis. The shaft of the tibia is sabre-shaped ; the platycnemic index and the corresponding measurements are :—

Platycnemic Index ...	66.2
Transverse Diameter	R. 14.5 mm. ; L. 15 mm.
Anterior-Posterior Diameter	R. 22.5 mm. ; L. 22 mm.

The head is considerably retroverted. The external articular surface of the head is convex, and the internal articular surface concave. An extra astragalar facet is well marked.

The fibulae are stout, relatively to the tibiae, and have the muscular impressions better developed than on the other bones of the lower limb ; their shafts are straight.

Pelvis. The pelvis is fairly stout, and the translucent area of the alae is small. The alae themselves are of relatively small extent, and are very vertical.

Vertebral column. The lumbar vertebrae are too much injured for exact measurement. The spinous process of the first lumbar vertebra has never become ankylosed to the lateral processes but has merely articulated with them.

The skeleton shows signs of old age, and also of slight abnormality, but in general characters resembles the other skeletons already described in this section of the paper.

A curious point in connexion with our collection of Semang and Sakai skeletons is the large proportion of aged females represented. This peculiarity does not occur in the Orang Laut Kappir or in the Malayo-Siamese collections, and the only explanation that we can suggest is that the Semangs and Sakais, ancestor-worshippers as they are, would have objected to our disturbing the more powerful ghosts of men in the prime of life. The Orang Laut Kappir and the Malayo-Siamese specimens were obtained under somewhat different conditions.

EXPLANATION OF PLATES XVI, XVII, XVIII

PLATE XVI

Semán ; Grit, Upper Perak (pp. 150, 155, No. 1)

- FIG. 1. Norma facialis
- 2. Norma lateralis
- 3. Norma verticalis

Mani ; borders of Jalor and Rhaman (pp. 152, 155, No. 3)

- FIG. 4. Norma facialis
- 5. Norma lateralis
- 6. Norma verticalis

PLATE XVII

Mai Darát ; Batang Padang, South Perak (pp. 162, 155, Nos. 8, 9, 10)

(a) Skull No. 9, ♀

- FIG. 1. Norma facialis
- 2. Norma lateralis
- 3. Norma verticalis

(b) Skull No. 8, ♂

- FIG. 4. Norma facialis
- 5. Norma lateralis
- 5. Norma verticalis

PLATE XVIII

Jehehr ; Temongoh, Upper Perak (pp. 159, 155, Nos. 4-7)

Skull No. 6, ♂

- FIG. 1. Norma facialis
- 2. Norma lateralis
- 3. Norma verticalis

Orangi Laut Kappir ; Coast of Trang (pp. 167, 174, Nos. 11-18)

Skull No. 11, ♂

- FIG. 4. Norma facialis
- 5. Norma lateralis
- 6. Norma verticalis



Fig.



Fig.

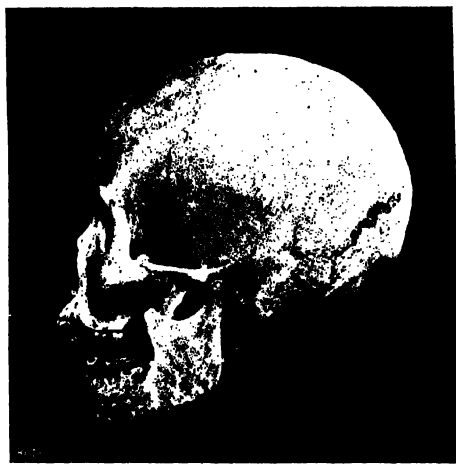
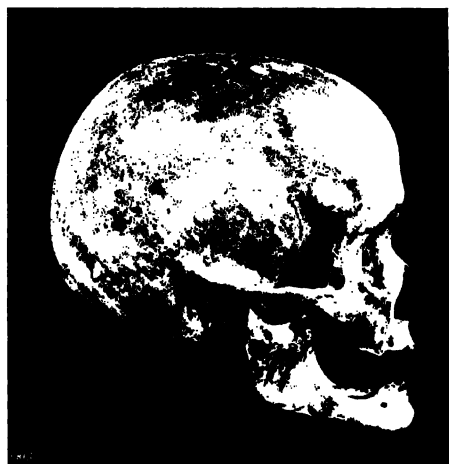




Fig. 1



Fig. 4

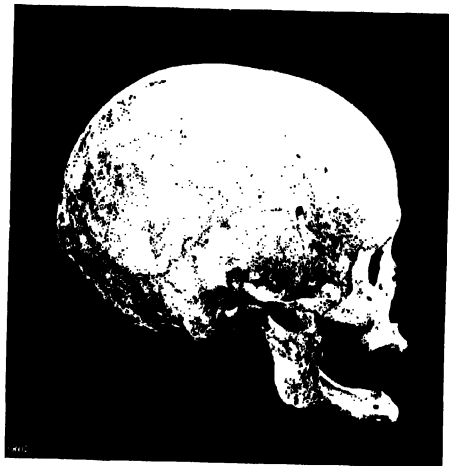
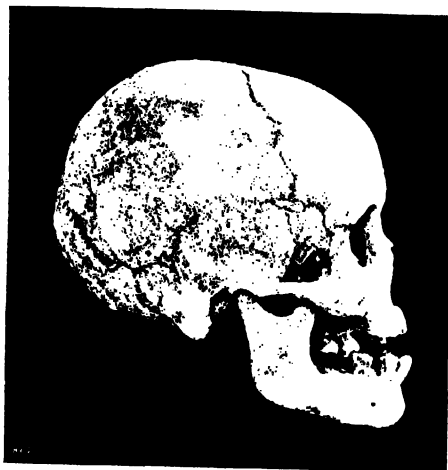


Fig. 2



Fig





Fig. 1



Fig.

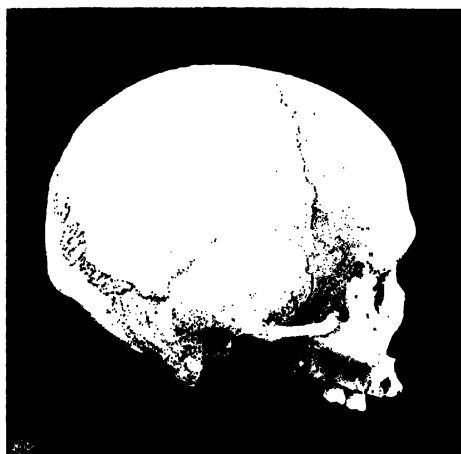
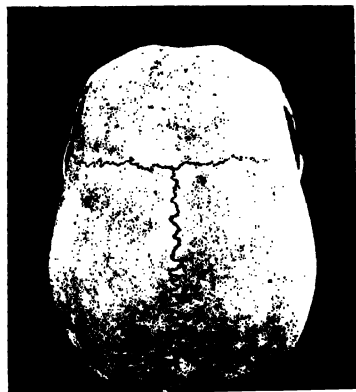
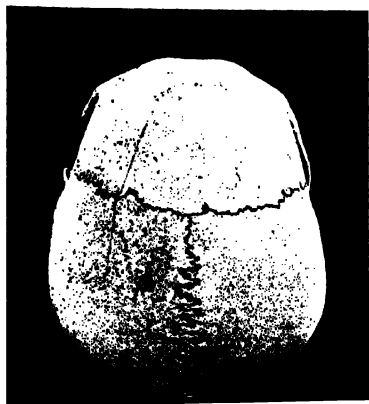


Fig.



Fig. 5



PART II.—COAST FOLK OF TRANG

N.A.

(A) *Orang Laut Kappir*, Coast of Trang (Plate XVIII., Figs. 4, 5, 6 ; Specimens 11-18)

The eight skulls representing this tribe were found exposed, together with a number of others too fragile and injured for removal, in the second of the two cemeteries described (*antea* pp. 63, 64). Owing partly to the action of the weather and partly to the growth of a microscopic green alga, which has eaten into the bone wherever it was not covered by the sand, the skulls are in a very imperfect condition, the lower jaw having disappeared in the majority of the specimens, while the facial region and the floor of the cranium have been much injured in several. It happens in some instances, that the exact point of measurement has been slightly worn or broken, and in such cases I have measured from the nearest point remaining, and have added +x to the figure recorded, to show that it is rather smaller than it would have been in the perfect skull.

Skulls. I regard four of the skulls as being those of males and four as those of females ; but the sexual characters are feebly marked in the majority of the specimens, and the sex of Nos. 17 and 18 is perhaps a little doubtful ; the condition of the sutures shows that all the individuals represented in my series have been adults.

Norma verticalis. The outline of the skulls is ovoid, being considerably narrower in the frontal than in the parietal region, but fairly symmetrical in all the specimens. The parietal eminences are distinct, but not very prominent. Out of the eight skulls six are mesaticephalic, while two just fall within the delichocephalic category ; the mean cephalic index is 77.0 and the extremes are 74.9 and 78.8. The vault of the cranium is fairly rounded, but shows a slight tendency, more marked in Nos. 16 and 17 than in the rest, to be roof-shaped. There is not a definite sagittal ridge in any specimen. In No. 16 the frontal longitudinal arc is equal to the parietal, but in the other

specimens, where the absence of Wormian bones permit a statement on the point, the parietal is the shorter of the two; the occipital arc appears to have been relatively long. The transverse constriction, known to French anthropologists as *la bande de la Toulousie*, is well marked in No. 16; and in all the specimens a large oval depression, embracing in its longer diameter the sagittal structure, is a conspicuous feature of the posterior parietal region (*cf. antea* p. 151). Possibly it may have been produced by the pressure of a knot or some other fastening during infancy. The posterior slope of the cranium, influenced to some extent by this depression, commences about midway between the bregma and the lambda, and is very gradual. The side walls of the cranium are slightly convex.

Norma lateralis. In those specimens in which the upper jaw has been preserved, prognathism is absent. The contour of the nasal bones, the tips of which have been broken in every skull, shows that the nose could not have been prominent in life, and that a definite bridge must have been present. The glabella and occipital ridges are prominent, especially in Nos. 11, 16, and 17. The mastoid and zygone are comparatively stout, especially in No. 16. The outline between the glabella and the occipital point forms a fairly regular arc, but the external occipital protuberance is very prominent, and the squama itself is flattened rather than convex. The cerebellar part of the occiput is convex downwards, arguing a great convexity of the external surface of the cerebellum; it is also of relatively great extent.

Norma facialis. The face is broad and flat, though the cheek-bones are not so prominent as in many Mongoloid skulls. As the zygomata have been broken in all the specimens on one side or on both, it is impossible to give the exact facial index, but it was probably chamaeoprosopic; the external nares are wide, and in two out of the three specimens in which it was possible to calculate the **nasal index**, it was broadly platyrrhine (60·9 and 56·3), while in a third it was mesorrhine (48·9). The floor of the nasal cavity is not separated from the upper jaw by a ridge, but rather by a transverse depression, interrupted in the middle line. The shape of the orbits varies considerably, and the extremes of the **orbital index** in five specimens are 62·5 and 84·2, the former being microseme to an unusual degree. The forehead is not a receding one, and the frontal region is well developed.

Norma occipitalis. The outline is somewhat squared. All the depressions and ridges seen in this view are particularly well marked and definite.

Sutures. The sutures are complicated in all the skulls, and the presence of Wormian bones is common. In No. 11 there are three supernumerary ossicles, two of them of considerable size, at the junction of the sagittal and

lambdoid sutures, in the right lambdoid there is a regular chain of small bones, while there are also two or three minute ones in the left. In No. 12 the conditions are much the same as far as the lambdoid suture is concerned, but left and right are reversed and the bones are larger. In No. 13 there is a Wormian bone of considerable size in the lambda. Epipteric bones are present in Nos. 11, 12, and 16.

Jaws and Teeth. The lower jaws are too much injured for it to be possible to discuss their features, but the chin appears to have been fairly prominent. *Post-mortem* action of the weather has split the teeth in several specimens, but in all they appear to have been sound during life. Their crowns are large and have not been worn flat, and there is no trace of blackening through betel-chewing. Though the skulls are those of fully adult persons, there is no sign of the development of the third molar of the upper jaw on the left side in Nos. 11, 12, and 13; it has been present on the right in all three skulls and on both sides in No. 15, while in the remaining four specimens its presence or absence cannot be diagnosed, owing to the broken condition of the jaw. The corresponding tooth of the lower jaw has been present on both sides in Nos. 13 and 15, though apparently in a rudimentary condition on the left side in the former. The palates are relatively broad.

The **cubic capacity** of a male skull (No. 11) is **1,440** c.c., that of a female (No. 12) **1,170** c.c. All the specimens, so far as can be judged, may have been phaeozygous, and probably rested behind on the posterior border of the foramen magnum.

Summary of Cranial Features.

All the eight skulls representing this tribe are practically mesaticephalic by measurement, approaching in form more nearly to the dolichocephalic than the brachycephalic type. A remarkable feature is the great development of the cerebellar part of the occiput. The series is sufficiently large, seeing that its leading features are constant in the different specimens, to give some indication of the cranial type of the race it represents, but is far too small to indicate the exact relationships of that race, even supposing that craniology alone could do so. We may safely conclude that the skulls show both primitive features and features generally associated with more highly developed races, and that they exhibit very close resemblances to the two Selung skulls described by Sir WILLIAM TURNER.¹

1. In Dr. Anderson's *The Selungs of the Mergui Archipelago*, London, 1894. It may be worthy of note that in one of these skulls, which I have had an opportunity of examining and comparing with my Orang Laut Kappir specimens, the development of the third molars is abnormal.

It will be noted that the measurements of the skulls do not accord with those of the heads of four living individuals (*antea* p. 116), but three of these persons belonged to one family, to which the fourth was probably related, and, in any case, so small an anthropometrical series is bound to be no more than the merest approximation, and is apt to be most fallacious; we have merely placed the figures on record.

Limb Bones. The long bones of the skeletons that had been exposed in this cemetery were in an even less perfect state than the skulls, and they had been so dragged about by crabs, rats, and small carnivores—with the tracks of which the sand was scored—that it was impossible to say, in most cases, which should be associated with which. I succeeded in preserving two femora (A), that seemed to be a pair, and an incomplete set of limb bones (B). In associating the latter, I was obliged to rely on their condition rather than their position, though they lay within a radius of a few yards. They appeared to be considerably more recent than the other bones near them, but it was impossible to associate them with any skull.

MEASUREMENTS

		A				B
Femur—Extreme Length	...	R. 403 mm.	L. 405 mm.			R. 417 mm.
Oblique Length	...	R. 402 mm.	L. 405 mm.			R. 415 mm.
Tibia—Extreme Length	...	...	..	...	...	L. 365 mm.
Condylø-Astragalar Length	...	...	...	...	...	L. 356 mm.
Humerus—Length	...	...	...	...	...	R. 295 mm.
Ulna—Extreme Length	...	...	...	...	...	R. 247 mm.
Articular Length	...	...	...	...	...	R. 245 mm.

Upper Limb. The upper limb is represented by the right humerus, radius, and ulna of B, but, except the ulna, these bones are all more or less injured, and the lower extremity of the radius is shattered. The humerus is slender, but well proportioned, and the muscular ridges are prominent, rather more so than on the corresponding bone of the lower limb. The transverse diameter of the upper and lower third of the shaft is fairly uniform. There is an intercondylar foramen. The radius is also slender, and the transverse diameter of the shaft in the corresponding regions is approximately equal.

Lower Limb. The lower limb is represented by the two femora constituting the specimen A, and by the right femur and left tibia of B. The three femora are all slender, and the muscular ridges are not more than moderately well marked in either specimen. The linea aspera is not prominent, and the shafts of A are rather more rounded, and have the surfaces less distinct, than that

of B; the **pilastral index** of A, taking the mean of the two bones, is practically **100**, and that of B is **96**. The actual measurements, taken opposite the nutrient foramen, are as follows :—

	A	B
Anterior-Posterior Diameter	R. 24 mm. ; L. 23 mm.	24 mm.
Transverse Diameter	R. 23 mm. ; L. 23 mm.	25 mm.

The **platymeric index** for A is **75.4**, and for B, **75.8**. The following are the measurements, taken on the upper third of the shaft :—

	A	B
Anterior-Posterior Diameter	R. 22 mm. ; L. 21 mm.	22 mm.
Transverse Diameter	R. 29 mm. ; L. 28 mm.	29 mm.

The line separating the neck of the femur from the anterior articular surface of the head is fairly definite, and there is no extensor area.

The head of the tibia is somewhat retroverted, the external condylar surface is slightly convex, and the internal surface, concave. The shaft is sabre-shaped, and the **index of platycnemy** is **67.8**; the measurements from which this index is calculated are :—transverse diameter of the shaft, 19 mm. ; anterior-posterior diameter, 28 mm. In the lower extremity, the additional tibio-astragalar articulation, so common in the skeletons of all races who are in the habit of squatting, is conspicuously marked. The groove for the tibialis posticus is unusually well defined.

Without being acquainted with the normal proportions of the body of the Orang Laut Kappir, and without knowing to which sex the bones obtained belonged, it is impossible to calculate the stature of the individuals which they represent exactly, but it is safe to say that these individuals must have been persons of slender build and low stature, as is also indicated by a portion of the pelvis associated with specimen B. The exact tibio-femoral index cannot be taken, as the corresponding bones of the same side are not present, but there is ground for stating that the lower limb was dolichocnemic. The **humero-femoral index** for B is **71.1**.

(B) *Samsams* (?); *Pulau Mentia* (Specimens 19, 20)

The two skulls and the limb bones described under this heading were procured by myself on the island of Pulau Mentia or Kok Muk; they were lying on the jungle floor, about half-a-mile from the Samsam camp, from which I believe they originated. The man who indicated their position to me was the Siamese who farmed the edible birds' nests of the island; he told me that

the bones were those of members of the Orang Laut Kappir tribe, but at the same time begged me not to inform the 'Malays' (*i.e.*, the Samsams) that I had taken them. From the relative position of the bones as they lay on the ground it seemed probable that they had fallen from a tree, and, so far as I was able to discover, the Orang Laut Kappir never adopt 'tree burial,' though it is very probable that they leave the bodies of those who have 'died badly' exposed wherever they may chance to breathe their last. I did not believe the nest-farmer at the time, and the improbability of the specimens having been of Orang Laut origin is intensified by examination of their anatomical characters and comparison with the series from Chau Mai. There remains the possibility that these Pulau Mentia skulls may be those of Siamese or Chinese, but comparatively few Chinamen visit the islands off the coast of Trang, and those who do so are fairly prosperous merchants; while the Siamese do not live on the islands unless they are revenue officials, as on Pulau Telibun, or farmers of the nests, that is to say, unless they are comparatively wealthy or important persons, whose bodies would be either cremated or buried. Moreover, I do not think that a Siamese would have permitted me to remove the bones of one of his own race. I, therefore, conclude that the specimens represent the Samsams of Trang, but have added a note of interrogation to the heading to show that the exact origin of the bones has not been absolutely authenticated, as in the case of the rest of our osteological collection.

Skulls. I have no doubt that both the skulls are those of adult males, though the third molar has not been erupted on either side of the upper jaw in No. 19.

Norma verticalis. The outline of the skulls is a broad ovoid, rather asymmetrical in No. 19, owing to the greater prominence of the left parietal region. There are, however, no traces of artificial shortening of the cranium. The **cephalic index** of No. 19 is just mesaticephalic (79·3), while that of No. 20 is strongly brachycephalic (86·1). The vault of the cranium is rounded in No. 20, rather inclined to be flat in No. 19; there is no sagittal ridge in either specimen. The posterior slope of the cranium is abrupt in No. 20, rather less so in No. 19. The side walls are convex. The parietal longitudinal arc is greater than the frontal in both specimens.

Norma lateralis. The facial region is missing in No. 20. In No. 19 prognathism is absent; the nasal bones are prominent as compared with those of the Orang Laut Kappir, but not so as compared with those of Europeans or even Chinamen, and there has been a definite bridge to the nose. The glabella and supraorbital ridges are not prominent in either specimen, but

the mastoid and zygoma are stout. The squama of the occipital bone is inclined to be convex, and the cerebellar part of the occiput is comparatively flat and of relatively small extent.

Norma facialis. The face of No. 19 is broad and rather flat, the **maxillo-facial index** (KOLLMAN'S) being 55·9. The external nares are wide, the **nasal index** being 48·1, mesorhine. The floor of the nasal cavity is separated by a well-defined ridge from the maxillary region. The **orbital index** is 89·7, megaseme. The forehead is not a receding one.

Norma occipitalis. The outline is square in No. 20, while in No. 19 the sides slope inwards towards the base of the skull.

Sutures. The sutures of both skulls are comparatively simple, and there are no Wormian bones in either.

Teeth. As noted already, the third molar has not appeared on either side of the upper jaw in No. 19. The point, taken in connexion with similar reductions noted in other skulls in our collection, is of interest in the light of statements often made regarding dental degeneration in highly civilized races. The few teeth that remain in the specimen are well preserved and white, and it does not appear that any have been lost during life. Their crowns are of moderate size and have not been ground flat.

The **cranial capacity** of No. 19 is high, 1,655 c.c. The skull is phacnozygous, and rests behind on the posterior border of the foramen magnum.

Summary of Cranial Features.

Both skulls are brachycephalic in form, though one of them falls within the mesaticephalic category numerically. They differ widely from the skulls of the Orang Laut Kappir, and indicate a comparatively high position for the race they represent, so far as it is possible to make a statement of the kind on the evidence of two skulls.

Limb Bones. The appendicular skeleton is represented by the two femora of No. 19, and by the left radius, femur, and tibia of No. 20. In both cases the bones were found in close proximity to the skulls with which they have been associated; the skulls lying at some yards' distance from one another. No other bones could be found. The measurements are:—

	No. 19				No. 20	
Femur—Extreme Length	...	R. 424 mm.	L. 430 mm.		L. 427 mm.	
Oblique Length	...	R. 419 mm.	L. 426 mm.		L. 424 mm.	
Tibia—Extreme Length	L. 325 mm.	
Condylar-Astragalar Length	L. 315 mm.	
Humerus—Length	L. 315 mm.	

TABLE VIII
COAST PEOPLE OF TRANG (CRANIAL MEASUREMENTS AND INDICES)

			ORANG LAUT KAPPIR								SAMSAMS (?)	
Collection Number	..	..	11	12	13	14	15	16	17	18	19	20
Age	..	..	Adult	Adult	Adult	Adult	Adult	Adult	Adult	Adult	Adult	Adult
Sex	..	..	♂	♀	♀	♀	♀	♂	♂	♂	♂	♂
Cubic Capacity	..	..	1440	1170	..	..	..	..	..	..	1655	..
Glabello-occipital Length	..	..	180	175	174	179	174	188	176	173	184	166
Basal-bregmatic Height	..	..	138	132	..	126 + x	..	..	..	..	141	132 + x
Minimum Frontal Diameter	..	..	98	96	90	84	93	100	94	..	95	96
Stephanic Diameter	..	..	110	98	104	102	118	112	100	..	118	113
Asterionic Diameter	..	..	108	101	107	111	108	120	114	116	115	110
Greatest Parieto-squamous Breadth	..	..	142	131	136	134	136	142	135	136	146	143
Horizontal Circumference	..	..	520	490	495	494	496	530	503	490	527	493
Frontal Longitudinal Arc	..	..	134	133	122	131	131	132	120	133	130	119
Parietal " " "	..	..	235	109	..	119	119	132	117	121	138	125
Occipital " " "	..	..		114	..	..	..	115	..	..	127	111
Total " " "	..	..	369	355	..	..	..	379	..	..	395	355
Vertical Transverse Arc	..	..	310	287	276	..	287	310	285	302	321	..
Basal Transverse Diameter	..	..	132	120	112	..	115	132	124	125	128	..
Vertical Transverse Circumference	..	..	442	407	388	..	402	442	409	427	449	..
Length of Foramen Magnum	..	..	37	35	..	..	..	..	..	..	34	33
Basal-nasal Length	..	..	100	100	..	..	..	..	..	..	98	..
Basal-alveolar Length	..	..	96	..	..	..	..	..	..	..	89	..
Total Longitudinal Circumference	..	..	567	..	..	..	..	..	..	..	..	..
Bizygomatic Breadth	..	..	136 ± x	130 ± x	..	..	..	..	..	..	134	..
Bimalar " " "	..	..	110	100	95	..	100	..	..	..	112	..
Nasio-mental Length	..	..	..	..	107	..	..	..	..	..	..	..
Nasio-alveolar Length	..	..	65	..	60	..	..	..	..	56	75	..
Nasal Height	..	..	48	..	45	..	45	..	..	45	54	..
Nasal Width	..	..	27	..	22	..	28	..	..	..	26	..
Orbital Width	..	..	42	41	38	..	40	..	..	40	39	..
Orbital Height	..	..	31	34	32	..	30	..	..	25	35	..
Palato-maxillary Length	..	..	52	..	46	..	..	..	..	..	50	..
Palato-maxillary Breadth	..	..	64	..	60	..	..	..	..	..	65	..
LOWER JAW	Symphysial Height		..	..	..	..	..	..	..	31	..	..
	Coronoid " " "		..	..	..	..	..	..	..	..	..	..
	Condyloid " " "		..	..	58	..	..	..	..	..	..	..
	Gonio-symphysial Length		..	..	88	..	..	..	97	72 ± x	..	..
	Bigonial Width		..	..	99 ± x	..	..	..	99	85	..	..
Breadth of Ascending Ramus		..	..	38	..	..	..	41	40	..	..	..
INDICES												
Cephalic Index	..	..	78'9	74'9	78'2	74'9	78'2	75'5	76'7	78'6	79'3	86'1
Vertical "	..	..	76'7	75'4	..	..	..	..	..	..	76'6	..
Maxillo-facial Index	..	..	..	..	..	..	..	..	..	..	55'9	..
Gnathic "	..	..	96'0	..	..	..	..	..	..	..	90'8	..
Palato-maxillary "	..	..	123'1	..	130'4	..	..	..	..	..	130'0	..
Nasal Index	..	..	56'3	..	48'9	..	60'9	..	..	..	48'1	..
Orbital "	..	..	71'4	82'9	84'2	..	75'0	..	..	62'5	89'7	..

Upper Limb. The humerus, as, indeed, are all the long bones representing the two skeletons, is comparatively stout, and has the muscular impressions well marked. The lower part of the shaft is relatively flat and broad. There is no intercondylar foramen.

Lower Limb. The femora have the muscular impressions prominent, and the linea aspera is relatively well developed in both specimens; the **pilastral index**, taking the mean of the two bones in No. 19, is 110·2 in that specimen, and 111 in No. 20. The measurements on which it is based are :—

	No. 19	No. 20
Transverse Diameter	R. 25 mm. ; L. 24 mm.	L. 26 mm.
Anterior-Posterior Diameter	R. 27 mm. ; L. 27 mm.	L. 29 mm.

The **platymeric index** of No. 19 is 81·9, while that of No. 20 is 75·7. The measurements for this index are :—

	No. 19	No. 20
Transverse Diameter	R. 32 mm. ; L. 29 mm.	L. 33 mm.
Anterior-Posterior Diameter	R. 26 mm. ; L. 24 mm.	L. 25 mm.

The torsion of the shaft of the femur in No. 19 is considerable. The extensor area of the neck is well developed, especially in the right bone of No. 19.

The tibia is relatively very short, the **tibio-femoral index** being only 74·3, and the condylo-astragalar length of the bone being the same as the extreme length of the humerus. The head of the tibia is not retroverted, but the shaft is platycnemic, though not so conspicuously so as in the case of the Orang Laut Kappir specimen. The **platycnemic index** is 75, and the measurements on which it is based are :—transverse diameter, 21 mm.; anterior-posterior diameter, 28 mm. In the lower extremity of the bone the extra astragalar facet is well marked. The tibialis posticus groove is ill defined and shallow.

The bones of the lower limb indicate stoutly built individuals of fairly short stature. The **humero-femoral index** is the same as the **tibio-femoral**, viz., 74·3.

ANTHROPOLOGICAL MISCELLANEA

THE CLEFT ROCK, THE ROCK THAT CATCHES (FOLK)

A MALAY STORY

[*This story was told me by a Singapore Malay living in Patani, who said that the Cleft Rock was in Matacca. I translated it as he told it me, sentence by sentence, and have thought it worth while to publish my translation, as a contrast to the Siamese story that follows, and as a good example of the etymological explanations in which the Malays delight. It was told me to explain the name of a fish, the Mudhopper (Periophthalmus), which is called 'Ikan Timbakul,' in Patani; but it will be observed that the said fish is heard no more of after the first few sentences. N.A.*]

'There was once a poor man, who had two children, the elder a boy and the younger a girl. Their mother went out to look for the fish called *Ikan Timbakul*, which she took, together with their eggs, in a basket (*bakul*). So she brought home the eggs, and bade her son look after them; but he ate them. Then she went out to look for more fish, and afterwards came home again and asked for the eggs. The boy said that his little sister had eaten them. But, when she saw that the eggs were no more, the mother's heart grew a little sore against her children; and she cooked seven *ketupat* (triangular cakes of glutinous rice packed in strips of palm-leaf), and took a little of her own milk, which she placed on a caladium leaf. Then she left the *ketupat* and the milk with her children, and went out, and came to a certain rock, called the Cleft Rock, the Rock that Catches (Folk)—*Batu Blab*, *Batu Bertangkap*—and entered within it, for it had a great hole in its side like a mouth. But the boy wept when he saw her going within, and seized her hair, and pulled out seven hairs. Then he fetched his little sister, and ran off into the jungle, carrying her in his arms.

'For many years these two wandered in the jungle. The boy's name was Bunga Pekan (Flower of the Market), and the girl was called Bunga Melor (Jasmine Flower). On a day they saw a hawk carrying off a chicken, and the boy went near and struck it from the talons of the hawk; and he took the chicken, and saw that it was a young fighting-cock. So he and his little sister carried it between them, one on each side, and they journeyed, but not for many moons, until the cock grew big. Then, having journeyed, they came near a certain rich city; and here they built a small hut, for they were very poor, and tied it together with their mother's seven hairs.

‘So they abode in their hut, but it was difficult for them to eat rice (*i.e.*, to obtain a living), for they were exceeding poor. “Well,” said the brother, “my little sister shall stay at home, and her big brother will go and look for food.” So the boy went forth with the fighting cock, and entered into the city. Then he took his cock and matched it against another, the lord of which was the prince of the city. But the prince said, “Hey! thou art a poor boy, how much wilt thou wager with me?” “Your Highness,” said the boy, “if thy cock wins, take my body to be thy slave; but if my cock wins, I beg for a little mouldy rice, for I am a poor man.” But his cock fought and won, and the prince gave him food and clothing. So he went back to his little sister’s hut, and called aloud, “Little sister! little sister! open the door! Your brother has returned from his quest.” Then said she, “If it be indeed my brother, let the cock crow over the door!” Then the cock crew, and she opened the door, and they ate, and clothed themselves.

‘Day by day the boy took his cock (into the city), and day by day it won; until at last the prince sent a man to see where he lived, while he fought it before him. So the prince’s slave went forth from the rich city, and saw the little hut; and he saw that the boy’s sister was surpassing fair, and went back and told his lord. “It is well,” said the prince. “To-morrow ye shall keep the boy, and I will go and see the maid.” So on the morrow the boy came with his cock, and the servants of the prince detained him, while the prince went forth with his messenger to the hut. Then when they came to the hut, the prince changed himself into the snake called *Ular Lidi*, the ‘Snake (like) the Midrib of a Palm-leaf.’ [A common species goes by this name in Patani.] And he crawled within through a small hole, and seized the maid, and wound himself round her waist. Then the boy came back, when he had ceased cock-fighting, and, when he came to the hut, he cried aloud, “Little sister! little sister! open the door!” But the maid replied, “Stay, big brother! a snake is coiled round my waist.” So her brother broke open the door, and seized a jungle-knife to slay the snake. “Stay,” said the snake, “Slay me not!” Then the snake changed into the prince once more. “It is well,” he said. “Slay me not! I will make the maid my wife.” So he took the maid and her brother and the cock back to the city; and her he married, but he made the boy his vizier.

‘Now the Cleft Rock that devoured the woman may be seen to this day in the country of Malacca.’

A SIAMESE LEGEND OF THE ORIGIN OF LEECHES

[*This legend was told by a Siamese 'nai-ban,' or head of ten households, at the village of Ban Kassôt, on the Jalor-Rhaman border. His Malay was inadequate to express 'his meaning, and I was, therefore, obliged to make use of a Malay-speaking Siamese as interpreter. The story has probably suffered in double translation, but I believe that the incidents are accurately transcribed. N.A.]*

'There was in a certain country a giantess (*bôtor*) named Nang Sung Sa. She had a daughter, Nang Kang Rhi, and her husband was King of the Giants. He died, and she took a Siamese husband—a man, not a giant—named Pra Rhot Ya Sip. Before he married the giantess, Pra Rhot Ya Sip had twelve wives, so that afterwards he had thirteen; but she took their eyes from the other twelve wives, and rolled them in a cloth, and gave them into the care of her daughter. All these twelve women had children at one time, and they brought forth their children in a well; but eleven of the children died, and one survived, whose name was Pra Rhot Ya Sin. The women were in a well because the giantess was angry with them, for she had made herself into a beautiful woman, having the power of changing her form, and had charmed her husband. Now, it came to pass that Nang Sung Sa fell sick of a fever, and she bade Pra Rhot Ya Sin, who had become a man, to search for the tree *menoi-ru-ban* beyond the sea, in the country of Nang Kang Ri; and she gave him a letter, in which it was written that Nang Kang Ri should eat him on the morning after he came to her, and that she should take heed lest his blood or liver fell on the ground. Then Pra Rhot Ya Sin, who was a magician, flew off through the air, and he saw below him Toh Ma Si Koh, a man who lived in the woods, and Toh Ma Si Koh called out to him, "Whither goest thou?" Then Pra Rhot Ya Sin came down to the guest-house of Toh Ma Si Koh, and said to him, "My father has sent me;" but Toh Ma Si Koh took his letter and read it, and Toh Ma Si Koh changed the writing, so that it bade Nang Kang Ri to marry the Prince.

'So Pra Rhot Ya Sin came to the country of Nang Kang Ri, the Queen of the Giants, and married her; and they drank arrak together for seven days, until the Queen was very drunk; but the Prince kept sober. Then he asked her what she had in her handkerchief, and she replied, "The eyes of twelve women, which my mother has given into my care, and my mother's heart (literally 'liver'), which she can take out from her body." After this they fell asleep, and she slept sound, but he slept with his eyes half open. Then, while she slept, he stole her mother's heart and the eyes, and he took also of the fruit of the tree *menoi-ru-ban*, for if he had not done so his step-mother would have said he had lied. But he tarried by the way in the woods,

wherein he made him a great house and a garden ; and news thereof came to his father, who sent forth two men, Khoon Kaou and Khoon Krai, to summon him ; but he would not come. Then he tarried other seven days, and his stepmother was wroth with him, because he would not come before that time, and she contrived so that she might slay him ; but he told all these things to his father, who made him King of the Giants. So he returned to his country. Then his stepmother changed her form, so that she became like unto her daughter, his wife ; but Pra Rhot Ya Sin knew her, for he was King of the Giants ; and she claimed a wife's right from him, having it in her heart to eat him. So he drew out his dagger, and cut her heart (from the handkerchief) into little pieces, and she died. But as she died, she said, " If my blood falls on the ground, it will become land-leeches ; if it falls into the air, it will become horse-leeches." Then Pra Rhot Ya Sin gave back their eyes to the twelve women, his father's wives."

[I have given the ending of the legend as narrated by the *nai-ban*, but a Malay in Jalor told me what was probably the correct version, though he was ignorant of the beginning of the story. He said that there was once a giant or giantess (*gergasi*) who was murdered. As she died she cried out, ' May my blood that falls on the ground become land-leeches, that falls in the water become horse-leeches, that falls in the air become mosquitoes and sand flies, such as drink the blood of men ! ' NEWBOLD¹ mentions a Malay *Hikayet Proat Nang Meri*, derived from the Siamese, and furnished to him by one of the secretaries of the ex-King of Kedah. ' It contains,' he says, ' the adventures of a prince named Proat (Pra Rhot ?), the only surviving child of twelve princesses, who all became pregnant at the same time, and of the Gargasi princess, Nang Meri (Nang Kang Ri ?). ' A Chinese mine-owner showed us, in a cave some miles from Ban Kassôt, what he called ' an image, made by men of old, of Toh Ka Si Poh,' or Toh Ma Si Koh. It was a stalagmite, bearing some natural resemblance to an old woman, increased by cloths that had been draped round it by the Chinese miners. They regarded it with great reverence, and had set up an altar of solid masonry in front of it. The idea that something terrible will occur if royal blood be spilt on the ground may be compared with that formerly prevalent in Burma. It is hardly necessary to call attention to the similarity between many of the episodes in the present legend and those of European folk-tales ; but it may be compared with the very different legend of the origin of leeches given by LING ROTH,² from Borneo. N.A.]

1. *Political and Statistical Account of the British Settlements in the Straits of Malacca* ; vol. II., pp. 330, 331.

2. *The Natives of Sarawak and British North Borneo* ; vol. I., pp. 308, 309.

ON THE USE OF BOWS AND ARROWS IN PERAK

By LEONARD WRAY, C.M.Z.S.,
CURATOR OF THE PERAK STATE MUSEUM

The use of bows and arrows in the State of Perak is confined, as far as my observation goes, to the Semangs of Selama and Upper Perak. I have heard that the mixed Sakai-Semang people of the Plus Valley sometimes use them, though I have never seen one in or from that district. In 1889, when I spent some four or five months exploring in Upper Perak, bows and arrows were not only in use but were being made there. The wood generally employed for the bows was that of the *Ibnis* palm, and the string was made from the bark of the *Terap* tree. The arrows were of bamboo, with detachable wooden foreshafts. The points were of iron, obtained from the Malays, but forged by the Semangs themselves. For this purpose they used double cylinder bellows made of one of the larger bamboos with feather or leaf pistons. At a place near the left bank of the Perak River, below Janing, I saw one of these forges, and obtained another in the Piak Valley; this latter specimen is now in the Perak Museum. The bows were also made, not many years back, in Selama, and there is a good example in the British Museum, which I obtained there. The arrows were of two kinds, the one with hard wood points, and the other with points cut out of sheet-iron, probably derived from old meat or biscuit tins. These latter had a cleft wooden foreshaft, with the metal blade cemented into the cleft, so that the foreshaft formed a rib up the centre of each side of the thin metal blade; in fact, they were mounted in the same way as the blade of the Malayan spear, known as *Apit dendong*.

ON THE POSSIBLE EXISTENCE OF SAKAIS UNINFLUENCED
BY MALAYS

I should think it quite likely that there may still be some Sakais in the hill-country to the East of Kinta who have no communication with the Malays. Twenty years back very few of the Sakais had anything to do with the Malays. Prior to the English occupation of Perak, the Malays used to hunt the Sakais like wild beasts, and endeavour to catch and enslave them. One of the chiefs in Kinta applied, in all good faith, to my brother, Mr. CHCIL WRAY, for a pass to catch seven Sakais to work in a mine of his. Sakai women were very common in the houses of the better class Malays before the emancipation of slaves in 1883, and many of them remained after that date in the houses of their former masters.

The Semangs, on the other hand, appear to have been in communication with the Malays from a very early period; they occupied the position of a subject race, and were made to clear jungle, plant rice, and collect jungle produce, etc., for their Malay masters.

L. W.

PRINTED BY DONALD FRASER, 37 HANOVER STREET, LIVERPOOL

FASCICULI MALAYENSES

ANTHROPOLOGICAL AND ZOOLOGICAL RESULTS OF AN EXPEDITION
TO PERAK AND THE SIAMESE MALAY STATES, 1901-1902

UNDERTAKEN BY

NELSON ANNANDALE AND HERBERT C. ROBINSON

UNDER THE AUSPICES OF THE UNIVERSITY OF EDINBURGH AND
THE UNIVERSITY OF LIVERPOOL

ANTHROPOLOGY

PART II (a)

PRICE 10s. NET

PUBLISHED FOR

THE UNIVERSITY PRESS OF LIVERPOOL

WILLIAMS & NORGATE

MUSICAL INSTRUMENTS

BY

HENRY BALFOUR, M.A., F.Z.S.

URATOR OF THE PITT RIVERS MUSEUM, OXFORD ; PRESIDENT OF THE ANTHROPOLOGICAL INSTITUTE ;
FELLOW OF EXETER COLLEGE, OXFORD

REPORT ON A COLLECTION OF MUSICAL INSTRUMENTS FROM THE SIAMESE MALAY STATES AND PERAK

By HENRY BALFOUR, M.A., F.Z.S.

CURATOR OF THE PITT RIVERS MUSEUM, OXFORD; PRESIDENT OF THE ANTHROPOLOGICAL INSTITUTE
FELLOW OF EXETER COLLEGE, OXFORD

THE musical instruments collected by Messrs. ANNANDALE and ROBINSON in the Siamese Malay States and Perak may, for description, conveniently be divided into the usual three main groups, viz., (A) percussion instruments, (B) wind instruments, (C) stringed instruments. While many of the instruments in the collection are of types already well known, others are, as far as I am aware, new, while others, again, have not, I believe, been recorded from this region. In the following list I have kept the instruments belonging to the wild tribes (Sakai, etc.) separate from those of the Malays and Siamese. As regards the specimens described, the greater number were acquired by Mr. ANNANDALE for the Pitt Rivers Museum at Oxford, where they now are, and I am indebted to him for information regarding their use and *provenance*. A few belonging to Mr. ROBINSON were kindly lent me for examination and are included in the list, being distinguished by having ('ROBINSON coll.') appended. *The collector's notes are enclosed in single inverted commas.*

I. INSTRUMENTS OF THE CIVILIZED TRIBES

A. PERCUSSION INSTRUMENTS

1. *Child's Rattle*. Samsam. Ban Pra Muang, Trang.

Merely a hollow staff of cane with the nodes very close together. The upper internode has a rough lateral perforation, and contains a small pellet, which rattles when the staff is shaken.

'Deformed pieces of cane of the kind are regarded as lucky by the Malays, Siamese, and Sakais, all of whom believe that such deformities "have a spirit."'

2. *Clapper-rattle or sistrum*. Malay name, *rau-rau*. Malay. Jujul, Patani (Plate XX, Fig. 1).

A rod of bamboo, split for rather more than half its length, the split ends being forced apart and kept in position by a transverse bar of wood, upon which are loosely set four half cocoanut shells, disposed in pairs, the hollows of each pair being set towards each other. The cross-bar passes through holes in the cocoanut shells. Total length from cross-bar to end of handle, thirty inches. When shaken, the cocoanut shells clash loudly together. This instrument is used for frightening fish into the nets. It is interesting to note that instruments identical in character with the above appear again in the Melanesian region, where they are used also in connexion with fishing operations, being shaken either above or below water to attract sharks. Santa Cruz, San Cristoval, and the islands off the East Coast of New Guinea (Trobriands, d'Entrecasteaux Islands, etc.) all have this instrument, the form varying in detail only. These must certainly be genetically connected with the Malay *rau-rau*.

'Being only used by fishermen, who are all Mahommedans, the *rau-rau* may be regarded at the present day as distinctly "Malay," but it must be remembered that the coast of Patani, probably, had at one time a large Bugis population.

'Cocoanut shells are strung together on sticks (which, in this case, are fixed upright in the ground) in the open air, and are also used as torches by the natives of the Patani States. A few drops of kerosene, or some other inflammable material, are placed in the uppermost shell, but the natural oil of the shells themselves allows them to burn with a brilliant light. We have seen such torches used at theatrical performances both in Nawngchik and Jalor. Possibly the noise they produce when being set up, or carried from place to place, may originally have suggested the manufacture of an instrument like the *rau-rau*.'

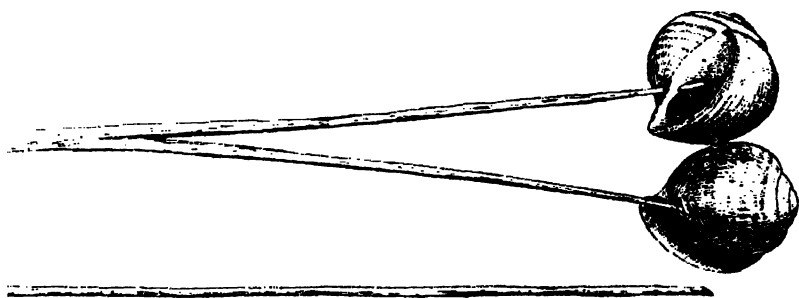


Fig. 1. Scale

'Another percussion instrument may be mentioned as being used by the Patani fishermen. It consists of a little triangular or square float of light wood,

on which are fastened, suspended from upright sticks, a number of bells, formed either of pieces of tinned iron (derived from kerosene tins) roughly twisted into a conical or flattened tube, or of large crabs' claws. The clapper, in either case, is generally the tip of a similar claw. These floats are attached to drift nets, the position of which they indicate to the fishermen at night.

3. *Spring Castanet*. Malay. Kampong Jalor, Jalor (Fig. 1).

A light rod of bamboo, split into two slender, springy arms, which are united below. On the end of each is fixed a large shell (genus *Amphiataria*), the spring of the supporting arms keeping the shells pressed against one another. A light stick or plectrum is passed rapidly to and fro between the shells, causing them to strike together very rapidly. This instrument is used by Malay children to imitate the sound made by the rice-swamp frogs (*Rana limnocharis*), a very good simulation being produced. A similar instrument is often improvised by peasants in Bosnia and elsewhere, by holding two wooden spoons together, with their bowls back to back, and rapidly passing the handle of a third backwards and forwards between the bowls.

4. *Bamboo Gong*. Malay name, *kalah*. Malay and Siamese. Kampong Jalor (Fig. 2).

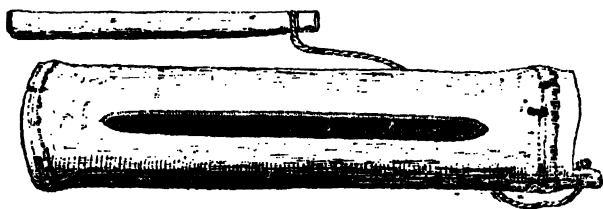


Fig 2. Scale = c. $\frac{1}{6}$.

A section of stout bamboo, eighteen and a half inches long, closed by a node at each end. Along one side runs a longitudinal, slit-like opening, twelve inches by nine-sixteenths inch, the bamboo is slightly engraved. The wooden striker is attached by a cord to a flange projecting at one end.

'Malays travelling at night often carry one of these bamboo gongs, which they strike when uncertain as to the way. The people in the nearest village reply. In some districts of the Patani States the use of the *kalah* is restricted to the *nai-ban* and *kem-nan* (heads of tens and hundreds), who summon their followers with it in case of fire, robbery or the like. Similar gongs are used by the guards on the birds'-nest islands of the Taleh Sap, where each sentinel is obliged to strike his gong every hour through the night,

the signal being taken up by the next watcher, and so on all round the island. In the Patani States the end of the rounds at cock-fights was formerly announced by means of a *kalah*, but a Chinese metal gong is now more commonly employed.'

Such gongs of bamboo are common in the Asiatic region, the Malayan Islands, and parts of the South Pacific.

5. *Cow or Sheep Bell*. Malay name, *keretok*; Siamese name, *ki-tong*. Ban Sai Kau, Nawngchik.

Seed of *tuh* or sugar palm (*Arenga saccharifera*); somewhat globular, the lower end cut off to leave a wide opening. Upper end perforated at three places, two holes being for a suspending cord of creeper, the ends of which are knotted through them, and a central one serving for the suspension of a clapper of palm wood. Height of bell, two and a half inches.

6. *Cattle or Elephant Bell*. Ban Sai Kau, Nawngchik (Pl. XX, Fig. 2).

Made from a joint of stout bamboo, cut so as to leave a straight back projecting into a flange at each end, the flanges being perforated for the suspending cord. Sides pared down and flattened; opening below rectangular; ends closed by natural nodes. Clapper of bamboo suspended from a bamboo rod, which is fixed through holes in the ends of the bell and passes through a hole in the top of the clapper. Total length, eight and a quarter inches.

7. *Buffalo Bell*. Malay name, *keretok-krebat*. Kampong Jalor, Jalor (Pl. XX, Fig. 3).

Similar precisely to the last, but made of solid wood instead of bamboo. Length, ten and a half inches.

It is difficult to determine whether the wooden or the bamboo form is the earlier. Cattle bells of this form are common also in Burma.

'This specimen was procured from a Malay, but it is difficult to be sure, with regard to any object procured in Jalor or Nawngchik, whether its original owner was a Malay or a Siamese, *i.e.*, a Mahomedan or a Buddhist.'

8. *Drum*. Malay. Kampong Jalor, Jalor (Pl. XX, Fig. 5).

Body made from half a large cocoanut shell, six and a quarter inches across the opening, overlaid with membrane of raw hide, which is braced by a zigzag lacing of split cane to a cane ring passing round the cocoanut shell. One of the 'eyes' is perforated. Used as a plaything by a Malay child. Similar drums are occasionally used in theatrical performances.

9. *Drum*. Malay. Kampong Jalor (Pl. XX, Fig. 4).

Made from the neck and rim of a large earthenware vessel, the body of which has been broken away. The rim is overlaid with membrane (? stomach

membrane), drawn tight and adhering to the neck of the vessel. Cane loop for suspension. Width across membrane, six-and-a-quarter inches. Malay child's toy.

10. *Drum*. Malay name, *gedombok*. Ban Kassôt, Rhaman-Jalor border (Pl. XX, Fig. 6).

Standing single-membrane drum. Body and stand in one piece of wood, wine-glass shaped. Body rounded, nine inches wide, open above and overlaid with python skin, which is braced with a zigzag lacing of split cane to a ring of cane passing round the lower part of the body. The stand is hollow, barrel-shaped outside, cylindrical within, with an expanding ring base. This drum is used in theatrical performances; it is probably of Siamese origin, the form being well known in Siam proper, where it is frequently very elaborately made, and is called *thon*.

11. Another similar drum, but with the addition of wedges for tightening the bracing thongs, and with monkey's skin instead of python's (ROBINSON coll.)

'Nos. 10 and 11 were obtained together and form a pair. Similar drums are often played singly by the natives of the Patani States, but in theatrical performances, whether the company be Malay or Siamese, the pair is almost invariably associated with a third drum, as is well shown in a model of the Senggora type of orchestra now in the Pitt Rivers Museum. The third drum has a double membrane, and is of a cylindrical or barrel-shaped form; unlike the pair, which are played with the fingers, it is struck with a couple of drumsticks at one end, which is inclined towards the player by means of a forked stick on which the instrument is supported behind.'

12. *Pair of Drums*. Malay. Ban Pra Muang, Trang (Pl. XX, Fig. 7).

Double-membrane drums. Dimensions of one, twenty-three inches long, nine and a half inches across one end and eight and a half across the other. The other drum is half-an-inch smaller in all dimensions. Body of hard, heavy wood, nearly cylindrical, hollow, both ends overlaid with membrane (skin of the *kijang*, *Cervulus muntjac*). The membranes are braced from one to the other with a long zigzag lacing of split cane, their edges being strengthened with cords. The bracing-lines are drawn together in pairs by sliding loops of cane, by which the braces can be tightened to raise the pitch. Both membranes are beaten. These drums were probably made in Kedah; they are rude forms of a well-known Siamese type.

'I was told that in theatrical performances in Kedah drums of this kind largely took the place of specimens like Nos. 10 and 11. Both in Upper

Perak and in Trang all the actors, musicians, and other public entertainers come from Kedah, bringing their more elaborate instruments with them.'

13. *Jew's-harp*. Malay name, *gēnggōng*; Siamese name, *gēng-gōng*. Ban Sai Kau, Nawngchik (Pl. XXI, Fig. 8).

Made of bamboo in one piece, four and a quarter inches long. The vibrating tongue is wide towards the attached end, suddenly narrowing towards the free vibrating end, thickened at the shoulders to add weight and increase the oscillation. The frame follows the outline of the tongue. At the distal end is fixed a plait of coloured threads, by which it is held; at the proximal end the frame terminates in a small spur, to which is attached the jerking-string, which ends in a long, slender wooden toggle. In playing, the instrument is held to the mouth, with the left hand holding the distal end; the string is jerked with the right hand, and this causes the tongue to vibrate, the notes being varied by altering the resonant cavity of the mouth. Jew's-harps of bamboo have a wide range in Eastern Asia, as far north as the Ainu of Yezo, and eastwards through the Malayan Archipelago to the Pacific, where they occur in many of the island groups.

'I have seen them among the Semangs of Upper Perak.'

14. *Jew's-harp*. Kampong Jalor, Jalor (Pl. XXI, Fig. 9).

Similar to No. 13, but of rougher make, four and three quarter inches long, with a strip of cloth and palm leaf at the distal end. The jerking-string is fastened through a small hole at the wide end of the frame, and ends in a small wooden toggle. A lump of wax is fixed to this end of the frame.

15 and 16. Two Jew's-harps similar to No. 14. Kampong Jalor and Ban Sai Kau, five and three-eighths and five and one-eighth inches long. In one the toggle is of porcupine's quill (ROBINSON coll.)

17. *Jew's-harp*. Samsam name, *gēnggōng*. Ban Pra Muang, Trang (Pl. XXI, Fig. 10).

Well and stoutly made of palm wood, five and five-eighths inches long, and half-an-inch wide. The shape as in those of bamboo, but deeper and with the weighted portion of the tongue correspondingly deep. A long strip of cotton cloth is attached to the flattened distal end of the frame. Jerking-string attached to small knob, and ending in a carved wooden toggle. This form is doubtless derived from the bamboo form.

'This instrument was probably made by a Samsam. Bamboo is not so common in the coast districts of Trang as it is in most parts of the Patani States.'

18. *Jew's-harp*. Siamese. State of Trang.

Made of iron, long and narrow in outline; frame two and three-eighths

inches long, made from a quadrangular bar tapering to a point at either end, bent upon itself in the centre, so that the two ends come close together. The tongue of flat steel is clamped at its broad end into a notch in the frame, at the end where the frame is bent round, and projects in a flat flange beyond the frame. It is tapered towards its free end, where it is turned up at an angle. A small cylindrical case of bamboo serves for carrying the instrument. In playing, the terminal flange of the tongue is held in one hand, while the upturned free end is plucked with the fingers of the other hand, the jerking-string being in this way no longer necessary. A similar form to this occurs in Northern India, and the European form of jew's-harp is probably derived from it.

‘I was indebted for this specimen to the kindness of Mr. A. STEFFEN.’

B. WIND INSTRUMENTS

19. *Trumpet*. Siamese name, *lat*. Ban Kassôt, Rhaman.

Made of buffalo horn, cut down so as to leave a cupped *embouchure*, expanding towards the other end, which is wide open. The horn is strongly curved, and has two small perforated flanges for a suspending cord.

‘Trumpets of the kind often have a magic square engraved on one side. They are used by village headmen in some parts of the Patani States, instead of the bamboo gongs (see No. 4), to call together the people. In the towns and larger villages of the ‘Seven Provinces’ the Siamese police go round every night at nine p.m. blowing trumpets of the kind, and after the

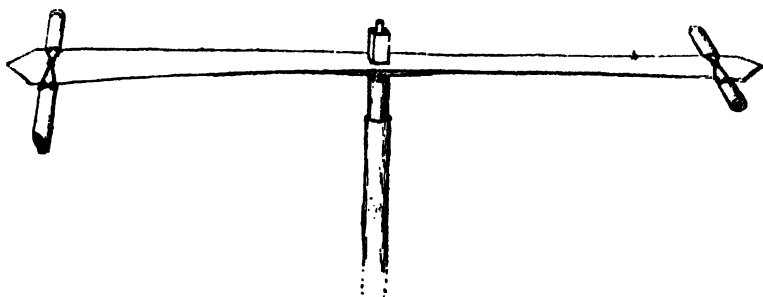


Fig. 3.

trumpet has sounded no one may go out without carrying a light. The *custom*¹ has been recently introduced from the Dutch East Indies; whither it was probably brought from South Africa, in some parts of which it still prevails.

20. *Musical Windmill*. Malay name, *berbaling* or *baling* (turnabout). Malay. Kampong Jarum, Rhaman.

1. There is no reason to think that the Dutch brought the *instrument* to the East Indies; the similarity between the trumpets of the Zulus and those of the Malays is probably a mere coincidence, and in any case is not very close.—N.A.

A long, narrow blade-like wooden lath, cut in such a way that the planes of the surfaces on either side of the centre are at a slight angle to one another, after the fashion of the blades of a screw-propeller. At the centre this fits over the squared end of a small cylinder or socket of bamboo, which can rotate freely upon the narrowed-down end of a stick, the socket resting on the shoulder of the stick. At the end of each blade of the windmill a small bamboo tube, closed at one end and bevelled off at the other, is lashed transversely. These tubes, which produce the musical sound, are practically single *syrinx* pipes, and are sounded by the wind against which they are driven. To direct the air against the sharp sound-producing edge a small mass of wax partially closes the orifice. Length of the rotating bar, twenty-four and a half inches.

‘These musical windmills are used by Malay children in different parts of the Patani States and Perak ; they are held in front of the body while the children run against the wind, which causes the lath to rotate rapidly and the bamboo pipes to give out loud-humming sounds. The pipes are often omitted, the toy being, of course, silent in this case. A *baling* is frequently fixed on the top of a high tree near the entrance to a village, in the belief that its notes call the wind, and so the rain. A similar practice obtains on the tops of mountains. In these cases the instrument is decorated with a palm leaf or stick, projecting at right angles to the lath on an inclined plane, from which bunches of cloth or grass depend, and it seems to be regarded as representing some kind of bird, of which the palm leaf or stick is the tail (*ekor*).’

21. *Whistle*. Malay name, *sernei* ; Siamese name, *whi*. Ban Sai Kau, Nawngchik.



Fig. 4. Scale = c. $\frac{2}{3}$.

Roughly made of wood, consisting of a plain tube, two and seven-eighths inches long, having a cylindrical bore. Externally, it tapers towards the mouthpiece. At the narrower end the surface is cut flat on one side, and a small hole is pierced through the flattened portion. There is no duct for directing the breath, which is guided against the edge of the hole by the lips of the performer. Inserted into the tube is a rough, short stick, which can be slid up and down the bore, and by this means the pitch is raised or lowered at will. The unusual feature of a slide for varying the pitch is noteworthy, the method being an uncommon one among the musical instruments of

barbaric peoples. This instrument is almost identical, in principle, with the old-fashioned European 'pitch-pipes,' although its construction is very rude and primitive.

22. *Whistles of clay.* Malay. Malay name, *pulik*. Patani and Ban Sai Kau.

These are whistling toys made of clay and painted, representing a variety of birds and animals (duck, woodpecker, hornbill, pigeon, frog, rat, etc.) The air is carried through a duct (usually the tail of the bird, etc.) against the edge of the sound-orifice. These toys bear a close resemblance to the bird and animal whistles of pottery made and sold as toys in various parts of Europe.

'No attempt is made to reproduce the cries of the animals represented. In Patani town these whistles are sold for a *keping* (a perforated pewter coin, worth the eighth of a cent.).'

23. *Flageolet.* Samsam name, *suling*. Ban Pra Muang, Trang. (Pl. XXI, Fig. 11).

Made of bamboo, seventeen and one-eighth inches long by one and one-eighth inches, decorated with burnt designs. The ends are cut off square. Upper end closed with a long plug of wood, extending one and three-quarter inches into the bore. This is cut so as to leave a narrow air duct, which conducts the air against the edge (or 'voice') of the sound-orifice, which is rectangular, with bevelled sounding-edge. The lower end of the tube is open. Seven open stops on the side opposite to the sound-orifice, and one on the same side as it, opposite to the uppermost of the other series. This type of instrument is very characteristic of Siam proper, where it is often beautifully made, with the addition, occasionally, of a supplementary hole or stop, which is overlaid with thin membrane to give a 'reedy' intonation.

24. *Flageolet.* Malay name, *suling*. Ban Kassot, Rhaman. (Pl. XXI, Fig. 12).

Similar to number 23, but smaller and of ruder make; length, nine and five-eighths inches; width, three-quarters inch. Rectangular sound-orifice cut in a bevelled portion of the surface. Six stops on opposite side to one on the same side as the sound-orifice. Slightly engraved in bands.

25. *Flageolet.* Kampong Jalor, Jalor. (Pl. XXI, Fig. 13).

Similar to the above, roughly made of bamboo, eight and nine-sixteenths inches long, seven-eighths inch wide. The sound-orifice is very close to the end. Six stops in front, none at the back.

26. *Flageolet.* Senggora town.

Similar to the above; five and seven-eighths inches long, five-eighths inch

wide. Mouth-piece plugged with wedge-shaped plug, the thicker end being interior. The embouchure is built up with wax to narrow the duct. Three stops in front, none behind. This instrument was used by a Siamese child, to accompany the workings of a toy puppet in imitation of the *wayang kulit* shadow dance figures.

27. *Flageolet*. Ban Pra Muang, Trang (Pl. XXI, Fig. 14).

Similar in form to No. 23, but somewhat differently constructed. Of dark, mottled bamboo, twelve and five-eighths inches long, seven-eighths inch wide, upper end re-inforced with a ferule of horn. The bamboo has been split along one side and has been mended with three bands of cane work, the crack having been stopped with wax. Seven stops in front, the lowest plugged with wax; one stop at the back, slightly above the uppermost of those on the other side; sound orifice as in No. 23.

28. *Pigeon-call*. Malay name, *bulu decot*. Ban Sai Kau, Nawngchik (Pl. XX, Fig. 15).

Body of large bamboo, twenty and a half inches long, closed by a node near one end, open and prolonged into a spur at the other. Sound-orifice upon the upper surface below the node; the air being driven against it through a long duct formed of a narrow bamboo tube, thirty-two inches long, which passes through an upright wooden rest, which is tenoned through the larger bamboo above the node. A binding of plaited rattan, which is braced to the upright, keeps the duct in position. When blown through, the instrument emits a rich, mellow note, which varies with the force of the blast. It is used for calling a particular kind of wild pigeon called *kabo-ko-pbi* in Siamese. This pigeon-call is identical in all particulars with one used by the Kadyans and Muruts of Northern Borneo for luring the little green pigeons (*Chalcophaps indica*), probably the same species which is captured by its aid in the Malay Peninsula. There is a specimen in the British Museum (Murut), and its use is well described by F. W. BURBRIDGE.¹

Several specimens were seen at Ban Sai Kau, all closely similar, and we found it difficult on Bukit Besar to distinguish between the cry of the real pigeon and its imitation. The Selangor pigeon-call appears to be very much larger.²

29. *Oboe*. Samsam name, *sernei*. Pulau Telibun, Trang (Pl. XXI, Fig. 16).

Tube of wood, tapering slightly upwards, carved with raised bands between the stops, which are six in number in front and one at the back. Plain bell-mouth of light wood. Into the upper end of the tube is inserted a reed-carrier of

1. *The Gardens of the Sun*, p. 73.

2. See W. W. Skeat, *Malay Magic*, p. 133, pl. 4.

tin bound with thread ; double sounding-reed made of double layers of palm-leaf. Lip-rest of cocoanut shell. A seventh stop in front above the others and a corresponding stop at the back have been plugged up with wax, and are functionless. This oboe was used to accompany a *rebab* (fiddle), No. 34. It was probably made in Kedah.

'Sounding-reeds, very similar to that used with this oboe, are employed as deer-calls in Jalor. As a rule two are tied together with a long string, so that one may be available if the other goes wrong.

30. *Oboe*. Malay name, *sernei*. Kampong Jalor, Jalor.

Similar to the last, but with tube of turned wood, varnished ; six stops in front, one at the back. Upper end of tube carved, as is also the bell-mouth. Reed missing.

'This was used, together with *rebab*, three drums (*cf.* No. 11), and simple bamboo clappers, in theatrical performances.'

31. *Whizzing-stick or Bull-roarer*. Malay name, *berbaling*¹ or *baling*. Kampong Jalor, Jalor (Fig. 5, upper figure).

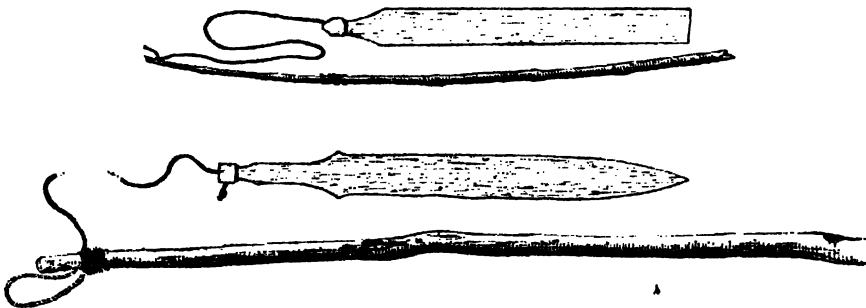


Fig. 5. Scale = $\frac{1}{4}$

A very thin, blade-like slip of bamboo, eight inches by three-quarters inch, cut off square at the lower end, shaped with sloping shoulders and narrow neck for attachment of string at upper end. Attached by a piece of string to a small, slender stick, about thirteen inches long. It is whirled round in the air and produces a humming sound.

'Now almost obsolete, but occasionally made as a Malay child's toy. Formerly it was used for scaring elephants from plantations.'

The name *berbaling* is also applied to the toy wind-mills (see Fig. 3 in the text).

32. *Whizzing-stick or Bull-roarer*. Patani town (Fig. 5, lower figure).

A very thin blade of bamboo, shaped like the usual form of spear-head, more or less leaf-shaped, with a tang ; ten and a quarter inches long. The

1. Mr. W. W. Skeat suggests that the name is really *babaling* or *bebaling*—a reduplicated form of *baling*. Owing to the barr with which it is spoken it is often impossible to transliterate words in the Patani dialect exactly.—Ed.

string is attached to a neck cut in the end of the tang, its other end being fastened to a stick nearly four feet long. This specimen was made by a Patani boatman—the same man who made two specimens for Mr. W. W. Skeat, one of which is figured by Professor A. C. Haddon (*Study of Man*, Fig. 40, No. 7).

‘The native name given by Mr. Skeat applies to the spear-head shaped form only, the name *berbaling* being that applied to the instrument in general.’

C. STRINGED INSTRUMENTS

33. *Fiddle*. Malay name, *rebat*.¹ Patani town (Pl. XXI, Fig. 17).

Length, thirty-three inches. Body made from a large cocoanut shell, cup-shaped, widely oval at the rim, overlaid with membrane. A rod of palm-wood passes through the shell, and over this is slid the neck of bamboo, to the upper end of which is fixed a head of carved wood, having three tuning-pegs. A ‘foot’ of bamboo passes over the palm-wood rod, below the resonator. Three strings are attached to the ‘foot’ and to the tuning-pegs, passing over an arched bridge on the membrane. The strings are bound against the neck, high up, with a whipping of string, their tension keeping the parts together. Bow of wood, twenty-four and five-eighths inches long, arched; proximal end discoidal with groove for the index-finger to lie in; distal end carved, flat, and pointed; bunch of strings of vegetable fibre, very loose. These are tightened by the fingers of the right hand in playing. This form of fiddle is common to Siam proper and to Java, though minor modifications are observable locally.

‘In the Patani States such fiddles are generally used either in theatrical performances or in magical incantations. In either case they are regarded as sacred (*kramat*), all dramatic entertainments being of a semi-magical nature.’

34. *Fiddle*. Samsam name, *rebat*. Pulau Telibun, Trang (Pl. XXI, Fig. 18).

Similar to No. 33, but of superior make. Length, thirty-six inches; body of cocoanut shell, nearly circular, seven and a quarter inches across, covered with fine membrane. ‘Foot’ and ‘neck’ of ornamentally turned wood. Head large and carved; turned tuning-pegs. Three strings of twisted cord, arranged as in No. 33. Bow as in No. 33, twenty-four and three-quarters inches long, the proximal end in a separate piece, with small perforated flange for attachment of strings. This instrument was probably made in Kedah (*cf.* No. 29).

1. Mr. W. W. Skeat has been kind enough to send me the following note regarding this word:—‘The word *rebat* is merely a loose pronunciation of *reba*—more strictly *geba*—which is the Patani-Kelantan form of *rebab* or *hurebab*, the Malay fiddle. Certain final consonants, e.g., “b,” “p,” “k,” etc., are broken down into a mere “click” in the Patani-Kelantan dialect, and *rebat* is merely a loose pronunciation of this, = *rebab*.’ The word is not Malay, but Arabic; probably having come, originally, from North Africa or Turkey.—ED.

35. *Fiddle*. Malay. Jambu, Jhering.

Similar to the above ; thirty-one inches long. Neck in two parts, upper part bearing a carved 'head.' The wooden parts are turned and painted. Two ebony tuning-pegs ; two strings of brass wire. Bridge with wide-spread foot and narrow columnar rest. Small bag of rosin attached to neck. Bow twenty-two inches long, plain, shaped as before.

36. *Fiddle*. Malay. Patani River, Hulu Rhaman.

Similar to the above, but of ruder construction. 'Foot' and lower part of neck of soft wood, upper part of neck of bamboo, head of wood carved to represent the head-dress of a *dewa* (demi-god) and inset with fragments of glass. Three plain wooden tuning-pegs, three strings of twisted fibre ; arched bridge. Bow similar to those of the above instruments.

37. *Fiddle*. Patani town.

Similar to No. 36, but better finished. Carved and painted, with burnt designs on the bamboo part of the neck. Carved head terminating in the glass stopper of a bottle. Three carved pegs ; arched bridge. On the membrane is fixed a lump of gum or rosin, probably to quench the inharmonic tones of the membrane. Bow of cane, slender and flexible, perforated at the proximal end and notched at the distal end ; horsehair strings knotted through hole and notch. The bow is modelled upon the Chinese pattern and may probably have belonged to another instrument of Chinese form (see No. 39). (ROBINSON coll.)

38. *Fiddle*. Kampong Jalor, Jalor.

Similar to No. 33, but smaller and of ruder make. Length, twenty-seven and a half inches. Head and neck in one piece of bamboo. Bow fifteen and a quarter inches long, of rude construction, proximal end expanded and curled over, with finger groove.

39. *Fiddle*. Samsam name, *rebab*. Pulau Telibun, Trang (Pl. XXI, Fig. 19).

Length, twenty-three and three-quarters inches. Body of scraped cocoanut shell, bowl-shaped ; aperture, four and a half inches across, covered with layers of newspaper. Neck and head in one piece of wood, cut square at the head. Two large tuning-pegs. The neck passes through the resonator, and forms a small foot below it. Two strings attached to the foot, and passing over a bridge of rolled-up paper, through a sliding loop on the neck, to be fastened above to the split ends of the tuning-pegs, which project far out. Bow as in No. 37, twenty-nine inches long. This is a thoroughly Chinese form of fiddle, and resembles the *erb-bsien* of the lower-class Chinese. The form has been adopted in Siam proper, and much improved upon.

II. INSTRUMENTS OF THE WILD TRIBES

A. PERCUSSION INSTRUMENTS

40. *Toy Squirrel (tupai)*. Kampong Jarum, Hulu Rhaman.

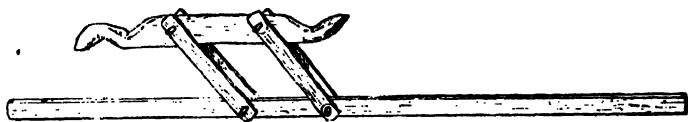


Fig. 6. Scale = $c. \frac{1}{6}$

Made of light wood to represent a squirrel with movable limbs, mounted upon a stick. When the stick is waved to and fro the squirrel flies backwards and forwards, striking the stick; or the stick may be struck against the palm of the left hand. This instrument was made by a Malay after the fashion of the movable toy animals used by Malay and Siamese children in the Patani States, but he affirmed that the Semangs of Rhaman used these in their musical entertainments, for beating time to the music and setting the rhythm, in conjunction with Nos. 41 and 46.

41. *Musical Clapper*. Malay name, *genggong Sakai*. K. Jarum, Rhaman.



Fig. 7. Scale = $c. \frac{1}{2}$

Made from a cylinder of bamboo, fifteen and a quarter inches long, one and three-eighths inches wide. For half the length, two portions of the bamboo are cut away, so as to leave two long and nearly flat vibrating tongues. On either side of the cylindrical part of the bamboo an elliptical hole is cut through, about four and a half inches from the end and at right angles to the plane of the two tongues. The bamboo between the holes and the bases of the tongues is split. The instrument is struck upon the thigh, the split edges being thus caused to jar together, and the two tongues to vibrate. The sound is modified by closing one or both of the lateral holes. This instrument was made by a Malay, who said that it was used by the *Orang Sakai* (i.e., *Semangs*) of

the district, in conjunction with their rude stringed instruments and toy squirrels. It somewhat resembles a tuning-fork in principle, but is peculiar from the fact of its being furnished with stops, a very unusual feature in percussion instruments. An identical instrument is described by Dr. A. SCHANDENBURG¹ from the Philippine Islands, under the name *buncacan*. It is therefore probable that this instrument occurs in other intermediate localities, to which, however, I have no references at present.

‘Should it prove to be a real Semang instrument and to be peculiar to the Malay Peninsula and the Philippines, it would be a most interesting link between the Semangs and the Negritos of these islands.’

‘At Ban Sai Kau, in Nawngchik, an implement, similar in form to this instrument, but six or seven feet in length, was seen in use as a pair of tongs in removing elephant dung from the space round which one of the hamlets was built.’

42. *Musical Clapper*. Procured together with the last, to which it is similar. It is smaller (fifteen inches long) and narrower. This specimen sounds very well.

B. WIND INSTRUMENTS

43. *Transverse Flute*. Semang (*Semán*). Grit, Upper Perak (Pl. XX, Fig. 20).

Of bamboo; twenty-three inches long, three-quarters inch broad. The upper end is plugged up with wax. Sound-orifice lateral, one and a half inches from the end. There are three stops: six and three-quarters, two and seven-eighths, and one and a quarter inches from the lower end, which is closed by a node. It is blown transversely across the sound-orifice.

‘On several occasions I heard the Semangs playing these flutes in the jungle, and noticed that the younger men generally had one stuck into their belts when travelling. In a dance they got up, at my request, at Grit, they did not play their flutes, but used them as clappers, beating them down vertically on the ground in time with their primitive zithers. The Sakais of the Batang Padang district, South Perak, use larger bamboos in a similar way upon recumbent tree-trunks.’

44. *Two Nose-flutes*. Sakai (*Mai Darát*). Batang Padang district, South Perak.

Of green bamboo; fifteen and a half inches long, narrow. The upper end cuts through a node, which is perforated with a central hole, across which the breath is blown from the nostril somewhat diagonally. There are five

rectangular stops towards the lower end, the lowest being only three-eighths inch from the bottom. The use of the nostril in blowing upon wind instruments is very widely spread, and may have arisen, independently, in some of the less connected areas. This form of nose-flute, with the sound-orifice at the extremity, resembles that of the Kayans and Kenniahs of Borneo, the island of Nias, Sumatra (Battaks), the Caroline Islands, etc.

'In the Malay Peninsula, nose-flutes appear to be characteristic of the true Sakai tribes (not the 'Sakais' or bastard Semangs of Upper Perak), as distinct from the true Semangs, who, as far as I could discover, only use mouth flutes. These, on the other hand, are probably unknown to the true Sakais. The nose-flute forms an interesting connexion between the Sakais and other primitive tribes of at least partially Mongoloid origin in the Malay Archipelago.'

C. STRINGED INSTRUMENTS

45. *Monochord*. Malay name, *gendang batak*. Kampong Jalor, Jalor (Fig. 8).

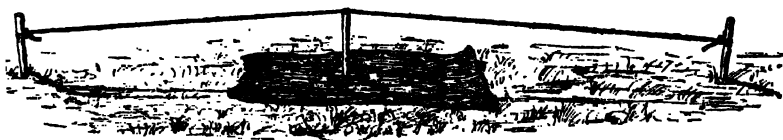


Fig. 8

The string is formed of a strip of cane, six feet three inches long, tied at each end to a pointed wooden peg, ten inches long. The pegs are driven into the ground, so as to stretch the string to its full length. A pot-shaped hollow is dug in the ground below the centre of the string, and over this is laid a sheet of *upik* (areca palm flower-spathe). A short stick rests upright upon the *upik* and serves as a bridge, over which the string is strained. In playing, the performer squats on the ground in front of the instrument and taps the string, on either side of the bridge, with two little strikers of wood or rattan. He also strikes the surface of the *upik*, which thus acts as a kind of drum.

'This form of monochord is common among Malay children in parts of Jalor and Rhaman, but we did not hear of its existence in any Sakai or Semang tribe. It appears to be quite unknown to the Malays of Hulu Kelantan, and I was unable to ascertain its occurrence in Upper Perak.'

46. *Primitive Zither*. Malay name, *gendang batak*. Kampong Jarum, Rhaman.

Bamboo internode, twenty-eight and one-half inches long, closed by a node near each end. Five strings, formed by splitting away narrow strips of the fibrous surface of the bamboo, leaving their ends still attached near the nodes. Bands of cane prevent their tearing away any further. Small bridges raise up the strings at either end. Two pairs of strings are joined by small rectangular plates of bamboo, the ends of which clip on to the strings near the centre. Underneath these plates are rectangular holes into the cavity of the bamboo. The instrument is played by twanging the strings with the fingers and tapping the little plates of bamboo upon the strings. It was made by a Malay, but was said to be used by the Semangs of the district. This method of making strings by splitting up portions of a bamboo is very widely spread throughout the Malayan region, and occurs also in India, North Africa, Madagascar, South America, and elsewhere.

‘Instruments of this kind are common among the Malayo-Siamese, and we did not see them in any Semang or Sakai camp. A slightly different form, noted among the Malays at Jambu and elsewhere, has a circular piece of *upik* lightly fastened to one side of the upper end over the node, which is pierced in the centre and is not quite at the end in this form. The *upik* is tapped with the fingers very much in the same way as the little plates of bamboo that clip on to the strings. The name *gendang batak* must not be taken to imply that the Malays associate either instrument they know by it with the Bataks or Battaks of Sumatra, for the word, though also used as the name of this tribe, has often quite a general sense, whether primitive or not I do not know, in the Patani dialect, meaning “cannibal” or “savage.” The word *dayak* is used in a similar way, but without the association of cannibalism. “Raja Batak” is a common figure in the shadow plays of the Malays and Siamese, representing a woman with the huge canine fangs commonly attributed to cannibals by these peoples.

47. *Primitive Zither*. Kampong Jarum (Pl. XXI, Fig. 21).

Procured at the same time as the last, which it closely resembles. It is of stouter bamboo, twenty-seven and a half inches long, and has seven strings.

48. *Primitive Zither*. Malay. Kampong Jalor, Jalor (Pl. XXI, Fig. 22).

Same as Nos. 46 and 47, but shorter (only sixteen and seven-eighths inches long); of stout, thick-walled bamboo. Seven strings, without binding bands beyond the bridges.

49. *Zither*. Sakai (*Mai Dardi*). Bidak, South Borneo (Pl. XXI, Fig. 23).

Cylinder of bamboo, roughly cut, about sixteen and a half inches long, open at both ends. Two strings of dark-brown fibre, knotted through slits below and bound round the bamboo high up, one above the other; the ends finished off ornamentally in a scroll. The strings should be bridged up at both ends. Played with the fingers.

'The ornamental scrolling of the strings is very characteristic of the instruments of the Sakais and Semangs, differentiating them from those of the Malays, Siamese, or Samsams.'

50. *Sakai Zither*. Same particulars. Similar to No. 49, but smaller; eleven and three-quarter inches long.

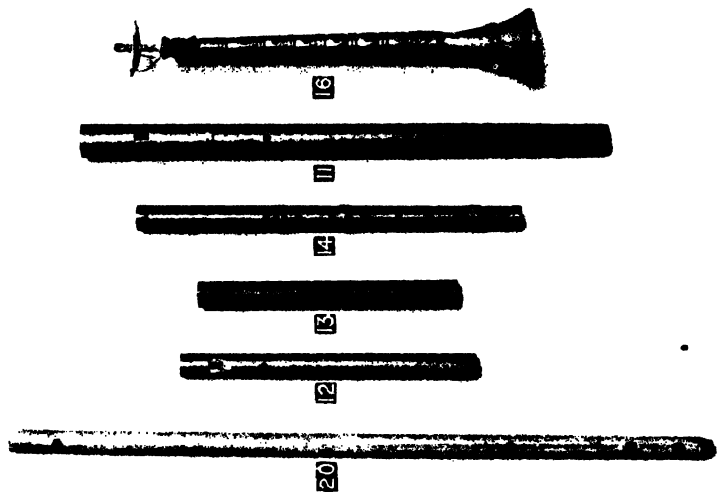
51. *Zither*. Semang (*Semán*). Grit, Upper Perak (Pl. XXI, Fig. 24).

Similar to Nos. 49 and 50, but better made. Bamboo cylinder, eighteen and a half inches long, slightly engraved. Two strings, consisting of a single cane thong, the ends of which are passed through small holes at the lower end of the bamboo, and are drawn tight and bound round the bamboo above, the ends being scrolled ornamentally. The upper bridges are missing.

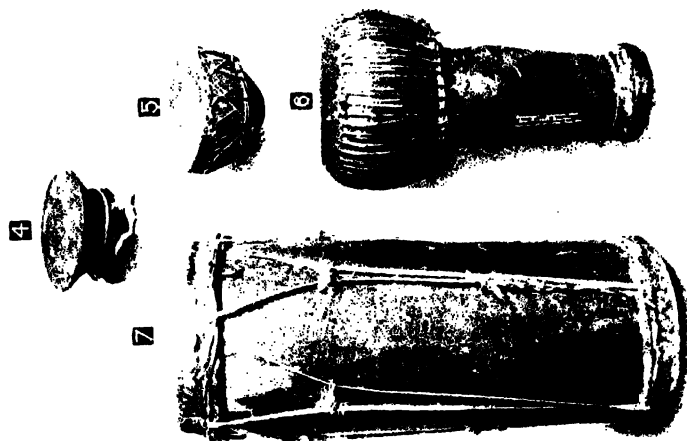
52. *Zither*. Sakai (*Orang Bukit*). Labuansara, near Kuala Lúmpur, Selangor (Pl. XXI, Fig. 25).

Similar to No. 51, but three-stringed. The bamboo cylinder is twenty-five inches long and is narrow; partly closed by a perforated node at one end, open at the other. The three cane strings are fastened at the lower end through a hole in the bamboo. They pass over a single grooved bridge at this end, over three bridges at the other, where they are fastened as in No. 51. Below the centre of the bamboo are four equidistant longitudinal slits about two and seven-eighths inches long and about three-sixteenths inch wide. The bridges were gummed in position in this instrument when it was procured; in the other Sakai and Semang zithers they were loose.

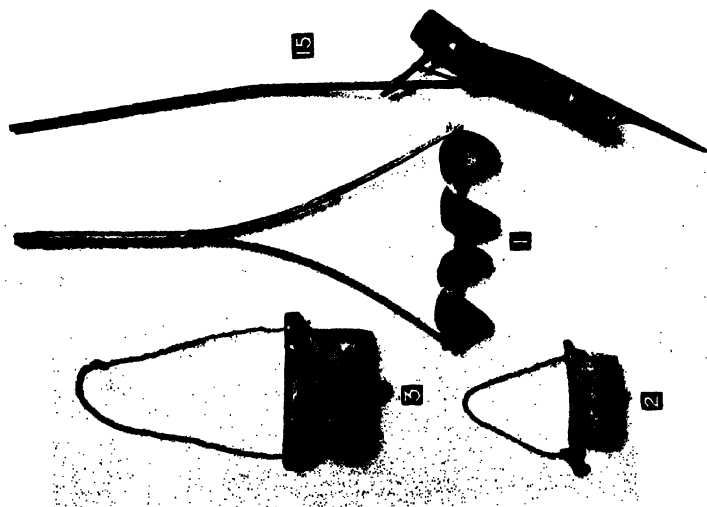
'The following facts should be emphasized with regard to the specimens described under the heading "Instruments of the Wild Tribes." Only Nos. 43, 44, 49, 50, 51, and 52 were actually made by Sakais or Semangs, the remainder having been constructed by Malays, who said that they were Semang in design. Nos. 45 and 47, however, were not even ascribed to the wild tribes in this limited sense, but are included under the same heading for the sake of convenience, as one of them is identical with another specimen said to be of Semang design, while the other has the same Malay name, though is quite a different instrument.'



SCALE = 1 LINEAR.
C.

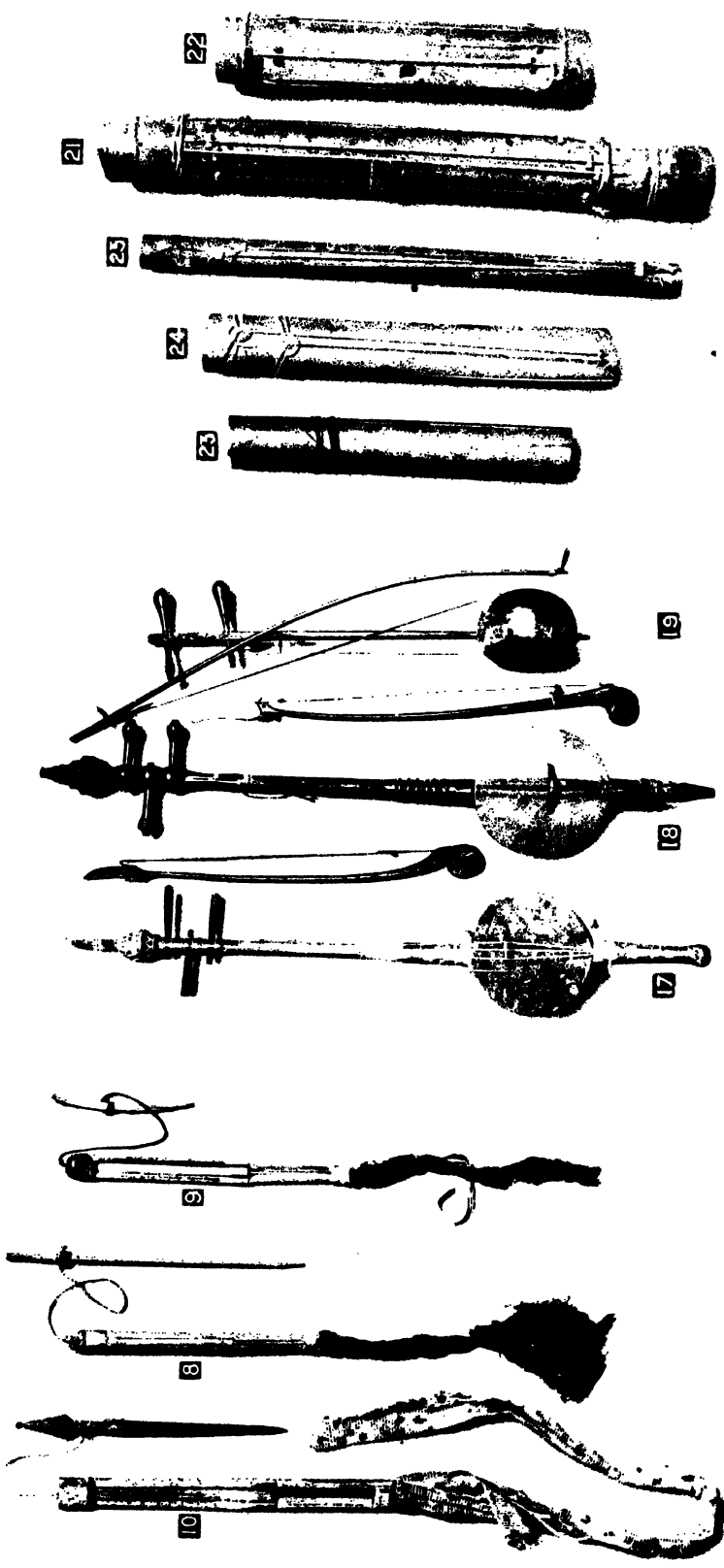


SCALE = 1 LINEAR.
B.



SCALE = 1 LINEAR.
A.

PERCUSSION AND WIND INSTRUMENTS.



SCALE - 1/2 LINEAR

SCALE - 1 LINEAR

JEWSHARPES AND STRINGED INSTRUMENTS

RELIGION AND MAGIC

BY

NELSON ANNANDALE. B.A

RELIGION AND MAGIC AMONG THE MALAYS OF THE PATANI STATES

By NELSON ANNANDALE, B.A.

PART II

GHOSTS AND ANCESTOR WORSHIP

ALTHOUGH, as has been shown in a former part, the Malays of the Patani States regard many naturally organized things—vegetable and mineral as well as animal—as beings endowed with a soul, even extending the same property to certain objects made with men's hands, yet I am not aware that they believe that the souls of animals, plants, minerals, houses or the like, remain in existence after the dissolution of their concrete bodies as actual spectres, unless it be in the case of certain animals, which have become *kramat* or sacred (like the crocodile, 'Toh Sri Lam) and do not really die, though their bodies may appear to do so.

It is otherwise with human beings ; but it is not clear, in many cases, which of the souls I have enumerated becomes the ghost, or, indeed, whether it may not be some other vaguely imagined emanation, which has no very definite existence as an entity during the physical life of the person. It has been already noted that men's *badi* are sometimes called *hantu orang*, but I have been told by Jalor peasants that there are other *bantu orang*, also called *jimbalam orang*, which are not *badi*, though they originate from dead men. These *jimbalam orang* may occasionally be seen at night in waste places, leaning on long sticks, wearing red caps and eating earth. If anyone is bold enough to seize one of their caps, and swift enough to escape their pursuit, he will gain the 'great science' (*bilmu besar*), that is to say, the art of becoming invisible. These ghosts appear to be closely connected with the Earth Spirits, which will be described later.

In the town of Patani one of the most dreaded of spirits is the *hantu bungkus* or *bantu galas* (Bundle or Package Spirit), whose proper form is that of a white cat, but which lies about at night in lanes leading to the cemetery in the form of a bundle of dirty white rags. Should a person pass it who is afraid,

it unrolls itself, twines itself round his feet, enters his person by means of his big toe, and feasts within on his soul, so that he becomes distraught and dies in convulsions, unless a competent medicine-man can exorcise it in time to save his life and reason. It is said that spirits of this kind have become far less numerous of recent years, perhaps because the establishment of Siamese rule has restrained the ferocity of the native rajas, making it impossible for them to murder their subjects at will. A very intelligent Malay, whom I met in Upper Perak, explained to me that the *hantu bungkus* was a corpse in its shroud.

The spirits of dead men do not confine themselves to waste places, for they are naturally anxious to re-visit their former homes. For this reason a curious belief is held in Patani regarding talking birds, such as the mina and the cockatoo. It is said that such birds never live very long after attaining human speech, because the spirits of the dead strangle them. The mere fact that they are able to acquire articulate speech marks them off from other animals, and they are believed to be also singular in being able to see spirits which do not willingly reveal themselves. The spirits, therefore, are afraid that they will warn the master of the house of their approach, having gained the capacity to do so in his own language, and so they strangle them, not wishing that the inmates should be given the opportunity of protecting themselves against their attacks.

Houses, especially those in which a murder has been committed, often get the reputation of being haunted by a ghost, and the same fate is believed to befall families which have been cursed on a death-bed. The hereditary governors of Nawnghchik were long subject to a curse of the kind, the legend of its origin being as follows:—The first governor, on his death-bed, threatened to kill anyone but his own son who should succeed him. By the intrigues of a rival candidate the son was declared insane, and was not given the governorship. For several generations no governor lived for more than a month after succeeding to the office, and strange noises were heard at night in the house, until the predecessor of the present governor summoned a great magician from Patalung, who successfully exorcised the ghost.

The form of the *hantu bungkus* shows that it is not necessary for a ghost, when it reveals itself, to have the proper form of its corporeal body, though it generally does so, and the same idea is illustrated in a less striking manner by the *hantu langsuir*, the ghost of a woman dead in child-birth. This spirit takes the form of a very beautiful woman with a hole in the back of her neck. We were told in Jalor by several old women that it only originated from Siamese or Chinese women, and that Malay women who lost their lives in augmenting the population went straight to heaven (*stirga*), but this is certainly

not the belief in other parts of the Malay Peninsula, and, in any case, I do not think there is any reason why one part of the spiritual essence of a person should not go to heaven while the other remains on earth, for although the *badi* of a murdered Mahommedan remains by his bones, this does not prevent him from enjoying the delights of Paradise. The fact is that in a jumble of incompatible religions like that of the Patani Malays we must not expect clearly defined tenets, while even in the beliefs of savages, whose religion has not been influenced by a higher culture, the materialism of their spiritual conceptions does not argue a logical or dogmatic creed. The *hantu langsuir* is regarded in Upper Perak and the Patani States as being a jungle spirit (*hantu hutan*), which cannot be tamed, but in some parts of the Peninsula it can be transformed into a living woman by cutting off its long locks and stuffing them down the hole in the back of its neck.¹ In the former localities it is believed to sit in the peculiar Ficus known as *paum jerei*,² and to come into the village at night and possess women.

Of actual ancestor-worship the traces are comparatively slight, though the very word *hantu*, now chiefly, but not entirely, applied to spirits which have no direct connexion with men, is believed by some authorities³ to be a Sanscrit word meaning 'dead.' At the present day, however, offerings to *hantu* are frequently made in cemeteries, especially in the neighbourhood of Patani Town, and also in waste places where those who have died a 'bad' death are buried. Dutiful children visit their parents' graves once a year, generally on a Mahommedan 'great day' (*hari raya*), and pour water on them, 'to keep their parents cool,' and the same ceremony was performed by the ex-Raja of Patani whenever he was about to leave his state. When persons have died a 'bad' or unlucky death it is not performed, because their children would be afraid to visit the grave. The idea conveyed may be the same as that of the Orang Laut of Trang when they bury a bottle of water⁴ with the corpse.

To explain another series of beliefs, which have been described with some, but not with full, justification as a system of ancestor-worship,⁵ it will be necessary to embark on a discussion of the word *kramat*, the exact derivation

1. Skeat, *Malay Magic*, p. 326. According to this author the *langsuir* was originally a woman who died on hearing that her child was stillborn.

2. The seed of this parasite, probably introduced by a bird, germinates in some cavity of the trunk of another tree. Hence it sends its branches upwards, and its tangled twisted roots downwards, until it strangles its host, which finally disappears, disintegrated by the weather. The *jerei* then stands upon its own legs, or rather roots, its weird form causing it to be regarded with superstitious reverence in the Andamans, in Borneo and elsewhere, as well as in Malaya. Malay rajas in the Peninsula are fond of comparing the British rule to it, they themselves being the original host.

3. Favre, *Dictionnaire Malais-Français*, vol. i, p. 193, s. v. *hantu*.

4. *Antea*, part i, p. 64.

5. A. O. Blagden, *Malay Magic*, pp. 673 *et passim*.

and meaning of which have been much disputed by Malay scholars. So far as its etymology is concerned, it will be sufficient for my purpose to state, as all authorities appear to agree, that it is derived from the Arabic, but its applied meaning in the Patani States cannot be dismissed so lightly. Generally speaking, it means 'sacred,' or, when used as a substantive, 'a sacred place,' but sometimes can only be translated 'lucky' or 'accursed,' for it has come to have the wide meaning 'connected with a spirit or supernatural influence' of any kind. But the quality of being 'sacred' falls naturally under two headings, and a place may be either 'saint-sacred' (*kramat wali*, or, in more correct Malay, *kramat walir*) or 'spirit-sacred' (*kramat bantu*), though the qualifying word is usually omitted in conversation.

So far as I know a *kramat walir* is always the grave of a Mahommedan saint, where miracles are wrought, or prognostications of the future given, in return for sacrifice and prayer. This system is one common to the Mahommedan world and need not detain us, seeing that Mr. SKEAT¹ has published the legend of the only 'saint-sacred' shrine of any importance in the Patani States, namely the grave of 'Toh Panjang at Kampong Datoh, on Cape Patani. Two suggestive facts may, however, be noted in regard to this shrine: (1) since Mr. SKEAT's visit, in 1899, a Mahommedan Indian from Singapore has discovered what is believed to be the grave of a second follower of the saint, and this grave, situated beside those of 'Toh Panjang himself and another henchman, has already commenced to be the centre of a cultus; while, (2) seeing that Cape Patani is difficult of access in bad weather, there exists at the mouth of the Patani River what may be described as a chapel-of-ease of 'Toh Panjang, that is to say, a tree whereon offerings to the Saint may be hung by those who are too poor or too lazy to visit the shrine itself.

Leaving Mahommedan saints and shrines, we find that the beliefs and practices connected with the word *kramat* are of a complicated nature. For the sake of lucidity, I propose to deal with them in the same order as that adopted when dealing with souls, viz., to talk first of persons who are *kramat*, then of animals, and finally of trees, places and inanimate objects generally.

A *kramat bidup*, that is to say, a 'living sacred place,' a living shrine, is a person who is so intimate with the spiritual world that the spirits have become part of himself; he is able to materialize them when others can only ensure their presence in an incorporate condition, and when he offers them a sacrifice they devour it bodily, not merely consuming its savour (*babu*) or soul (*semangat*) as they do when an ordinary medicine-man makes them an offering. When a man or woman has gained such spiritual power, by study

1. *Fables and Folk-tales from an Eastern Forest*: Cambridge, 1901.

and a strong soul (*semangat kuat*), he or she is no longer subject to death in the ordinary sense, though the body may perish and decay, but, as a young Patani fisherman expressed it to me, 'lives on in the woods and in the dreams of men,' becoming visible to favoured persons who are in the jungle or asleep. After seeming death, after becoming habitually invisible, such a person may even marry or give in marriage, as the following story shows :—

On a hill in Rhaman, not very far above Bendang Stah, there is a shrine reputed to be the grave of a woman called 'Toh Bidan Ma Saleh, Grandmother Midwife the Mother of Saleh, who became a living shrine on account of her skill in bringing babies into the world, or rather in counteracting the wiles of the spirits which attend when a baby is born. Some years ago a tornado arose in Rhaman which swept round a great stretch of country, cutting a narrow and well-defined path for itself through the jungle. Ten days before its occurrence 'Toh Bidan Ma Saleh appeared in a dream to the raja of Rhaman at Kota Bharu, and said, 'Let not thy people be alarmed, for in ten days I marry my son to the daughter of the raja of Lakawn Suka. When they hear the noise of guns and a mighty wind, and the marriage procession passes, let them not be afraid.' At the same time the raja of the spirit-land of Lakawn Suka appeared to the headman of Kampong Jarum, whose brother-in-law told me the story. On the appointed day, after the sound of cannons had been heard from the mountain, the marriage procession passed the village in a mighty wind, hurting no one and doing no harm to the houses, but cutting a path in the jungle as though with hundreds of knives. The headman's brother-in-law was seated on the platform of his house, beside a number of trays of new tobacco which were drying in the sun. He told me that he was the only person in Jarum who was not afraid, but he cried out 'O 'Toh Bidan Ma Saleh, take the tobacco to make cigarettes for the wedding feast,' and the wind carried the tobacco away.

The power to become a living shrine is, in a very limited sense, hereditary, though not necessarily descending from father to son. I know of a family in Jalor which has produced five such members within three generations. The reason of this is twofold ; in the first place, all medicine-men, whatever their grade may be, are obliged to hand on their art to an apprentice, who is often, but not always, a relation of a younger generation, and, in the second, everything connected in any way with a living shrine becomes more or less sacred itself. The legends surrounding the great name of 'Toh Ni, a raja of Rhaman who died within the last fifty or sixty years, are very instructive from several points of view, and I will deal with them together, although in so doing it will be impossible to keep exactly to the order proposed in a recent paragraph.

In a well-defined district, commencing near Lenggong in Upper Perak, reaching across the main range of the Peninsula and ending abruptly at Bendang Stah near the Jalor-Rhman border, this raja has become practically a local saint or genius, equally revered by Buddhists and Mahommedans, though there are many persons still living who claim to remember his earthly reign. In this district no native will start on a journey in the jungle without first lighting a taper in honour of 'Toh Ni and asking for his protection in the woods. No formula of dedication is used, but the traveller 'remembers 'Toh Ni in his heart.' No sacred place is visited, but the taper is often fastened to a large jungle tree, sometimes to the posts of a house or even to the side of an elephant howdah. Outside of 'Toh Ni's country it is not customary to make him offerings unless they have been vowed within its borders, but if a promise has been made it may be fulfilled elsewhere. A Patani man whom I knew was travelling with his uncle in 'Toh Ni's country when he fell sick of a fever. The uncle promised to light twenty-four wax tapers in honour of 'Toh Ni if he recovered, which he did at once. But the vow was not fulfilled. The two men returned to the coast, where my friend was taken ill—worse than before. The uncle remembered his vow and offered the candles there and then, thus securing his nephew's immediate recovery.

'Toh Ni is believed to object to quarrelling and evil speaking of all kinds in his country, especially after dark, and is said to avenge himself on those who forswear themselves by him. If anyone does this at night he hears a rustling in the trees ; if he persists, he dies with his neck so twisted that his face is over his back. A woman was said to have died in this way shortly before my visit to Rhman.

'Toh Ni was not only raja of the human state of Rhman, but also of the spirit-land of Lakawn Suka, which he could make near or far, anywhere or nowhere, as he pleased. As a rule it is supposed to lie somewhere at the headwaters of the Sungei Lakawn Suka, a tributary of the Patani up which it is said that no man has ever made his way. The following story¹ is told regarding this country in Rhman ; I had it from one of my raftsmen on the river :—'Toh Ni had lost some elephants and had sent three of his young men to search for them in the woods, where they wandered for many days. At last they came to a fair city with a fine guest-house, into which their leader went, leaving his two companions without, and bidding them speak to no one. Within he found an old man, who was really a spirit, mending a casting-net, and was told that the elephants had been found. Meanwhile a beautiful

1. It is quite possible that this legend may refer to some jungle tribe still existing, for the sources of the Patani River and its tributaries are still unexplored.

woman, also a spirit, had accosted the two who had remained without, and one of them had attempted to embrace her. She had bitten his shoulder, causing him an agony of pain. But 'Toh Ni, foreseeing some such occurrence, had given the headman a magic ball, which he rubbed on his companion's shoulder, producing instant relief. The three men returned to Kota Bharu, which they reached in three days. Their leader, however, after many years, became possessed of a strong desire to revisit the beautiful land of Lakawn Suka, and, setting out to seek it in the woods, never returned again.

So great was 'Toh Ni that everything he owned or handled became sacred. One day, on a journey, he threw away an old bamboo cylinder which had contained *blacham*—a malodorous conserve of fish, prawns and salt of which Malays are fond. Dead as the bamboo was to all appearance, it sprouted and grew, producing in the course of time a large thicket, which is distinguished from other bamboos by the peculiar shape and size of the leaves, and, above all, by the fact that the stems are covered with a white efflorescence like that of salt. It is situated in Rhaman, on the left bank of the Patani River, some miles above Bendang Stah. When I passed it on my way to Patani from Upper Perak, my raftsmen, some of whom were Malays and some Siamese, tried to persuade my Siamese servant, who came from Bangkok, to pluck a twig, saying that the *Datob* would not hurt a Bangkok man; but one of them told me that his own brother, having attempted to steal a small branch, immediately fell down dead, with blood spurting out all over his body. Even a leaf would have been a most powerful luck charm.

'Toh Ni's elephants also became sacred, especially a large female, on which he generally rode. After his apparent death he appeared in a dream to his successor, and told him that this elephant was about to bring forth a male foal, which should also be sacred and should be known by the semi-royal title of *ni*. The younger elephant, now in its prime, is still regarded with the greatest reverence; persons who chance to meet it—it wanders freely about the district—do obeisance to it, as I have myself seen, believing that it will bring about some injury to those who are rude to it; and it is even reputed to collect all the other elephants in Rhaman occasionally and to take them on a pilgrimage to the shrine of 'Toh Panjang, which is several days' journey distant from the nearest point in 'Toh Ni's country. I was told that many persons had seen the pious procession, and that the elephants which composed it would do no harm to those who were polite to them, but would eat up all the growing rice or destroy the fruit trees of anyone who did not greet them with the salutation of an inferior to superiors.

From what has been said in the present paper and in the former one about the customs and beliefs of the Patani fishermen, it will be seen that animals are sometimes believed to have attained sanctity, with its concomitant qualities, through being associated with a powerful medicine-man, or even because of actual descent from some mythical person, as the 'white' crocodile is descended from Betimor, who became 'Toh Sri Lam'; and it is perhaps natural that any easily recognized individual of a powerful species, if well-known in a district, should often become connected with the local folklore or the local saint. To the Malays of Patani, moreover, as to many primitive people, natural deformity is the outward and visible sign of an inward and spiritual abnormality, generally of an extraordinary increase of power. In some cases it is not difficult for even an educated European to see why this should be so, but in others the reason is more obscure. For example, it is obvious that no great exercise of the imagination is necessary to ascribe to a gigantic individual a 'giant's strength,' even though giants are not always stronger than normal individuals, and it is quite reasonable that persons who regard white as a holy and imperial colour should reverence albinos as peculiarly sacred; but it is not obvious why an elephant or a tiger with a withered or shortened limb should be considered sacrosanct, except, perhaps, because of the rarity of such conditions among powerful animals whose survival depends to a great extent upon their strength. In my former paper I noted instances of human beings who were believed, because of a natural disfigurement, to wield supernatural powers, and throughout the Patani States it is asserted that hairy men have it in them to become magicians. I cannot explain why the black mark on his face should have been regarded as conferring on 'Prince Black Cheek' the power of regulating the weather at sea and of slaying his enemies by a curse, except on the general principle enunciated; but it is possible, I think, that hairiness of the body and face, a rare condition among the Malays themselves, may have become associated in their minds with some foreign race (perhaps the Arabs or Hindus), from whom their medicine-men believed that their charms and incantations were largely derived, or who were reputed, as a race, to be peculiarly skilled in magic.

An instance of a somewhat similiar belief, though its origin is possibly more ancient, may be dealt with in this connexion, namely, that a certain Sumatran tribe, comprising half of the Korinchis and living in the territory of Achin, but separated from the other Korinchis by a river, have no hollow in the centre of the space between their upper lips and their noses. It is this race who are said in the Siamese States to have the power of turning themselves :

into tigers,¹ of which power their neighbours across the stream are devoid, having faces of the normal human type.

A few instances of unusually large or otherwise abnormal animals being considered *kramat* may be given. Perhaps this quality is more frequently ascribed to large snakes than to any other beast or bird, and we have already seen that all cobras and hamadryads, and also the numerous species described by the Patani Malays as 'axe snakes,' are regarded as sacred and possessed of evil souls or *badi*, because of certain peculiarities in their coloration and in the movements of their eyes. Large pythons, that is to say, large individuals of the species *Python reticulatus* and, probably, *Python molurus*, are frequently considered sacred by the inhabitants of villages near which they take up their abode, and at Jarum I was told that a European, who had been the last white man to travel through Rhaman before my own journey from Upper Perak to Patani, had been seized with a bad attack of fever, because either he or one of his followers had shot a snake of the kind. When travelling upon the Patani River, above Bendang Stah, I heard a peculiar sound proceeding from a wood on the bank, and was told by my raftsmen that it was the voice of a huge python² which lived in this wood coiled round a palm-trunk. They added that in spite of its monstrous size it was quite gentle, and that people sometimes gave it fowls. Near Berusong, on the Temongoh River, I was shown a peculiarly shaped rock on which a sacred elephant of gigantic stature was said to sharpen its tusks. It was believed to have done so for generations, not being subject to death, and was also reputed to have one foot shorter³ than the other three. White animals, especially albinos, are generally held sacred, either in a major or minor degree. The so-called white elephants, which are

1. Cf. Skeat, *Malay Magic*, pp. 160-163. I have not heard the power of turning himself into a tiger ascribed locally to any native of the Patani States, though several persons in this district told me that both the members of the Sumatran tribe and also certain natives of Java could do so; but Skeat records the existence of the belief in Kelantan with regard to the local Semang medicine-men (*Journ. Anthropol. Inst.* 1902, pp. 137, 138). The opposite belief, however, namely, that there are certain tigers which, being great magicians, can turn themselves into human beings, is prevalent in Rhaman and Patani. It is believed that these tiger magicians cannot alter the shape of their teeth, so that they can always be recognized when in human guise, and any person who has protruding canines is thus liable to be accused on the one hand of being a tiger in disguise, and on the other, of being a cannibal; anthropophagy being connected, in the opinion of the Malays and Siamese, with huge fang-like teeth. The same superstition about tigers being able to change themselves into human beings was prevalent in Malacca in the fifteenth century (see Groenewelt's papers on the Chinese accounts of the Malay Peninsula, translated in *Miscellaneous Papers relating to Indo-China*, Second Series, Vol. I, p. 245. London, 1887).

2. It is extremely interesting to compare the relics of serpent-worship that persist in the Patani States with the cult of the great snake which is said to have been formerly worshipped by the Malays of Kedah, which they consulted regarding the election of their sultans, and to which they sacrificed their virgin daughters. (Cf. Sherard Osborne, *My Journal in Malayan Waters*, p. 352. London, 1860). It is believed in Jalor that certain trees are haunted by a spirit which takes the form of a snake, and that a great snake or dragon (*naga*) dwells in certain mountains, while a rock on Bukit Jalor that is thought to resemble a dragon's head is believed to presage great power to the rajahs of Jalor. In the winter of 1900 the summit of Bukit Biloh, where an ancient place of execution, consisting of a chasm down which criminals were thrown, was used by the rajahs of Rhaman until comparatively recent times, suddenly split open in a new place, and a terrible storm swept down to the coast with torrents of rain. This occurrence, probably due to a landslide produced by a tornado, was locally ascribed to the dragon of the mountain breaking loose and rushing to the sea, concealed in the darkness and the rain. A similar event, on a smaller scale, was also said to have taken place in one of the limestone hills near Biserat during the same season, and it was evident that a landslide or an earthquake had taken place in this hill between my two visits to it, in 1899 and 1901.

3. Cf. Skeat, *Malay Magic*, pp. 70, 71.

mostly caught in Lower Siam or Lower Burma, receive a certain amount of reverence from the Malays, who do not, however, treat them with the complicated etiquette adopted by the Siamese ; while white monkeys, especially the white gibbon, are reputed sacred both by the Malays and by the aboriginal tribes of this district, their bones being looked upon as powerful luck charms. White buffaloes, on the other hand, are said to be accursed, and their flesh is believed to cause a sickness to those who eat it ; but they are agreed to be *kramat*,¹ because they form the most acceptable offering to the spirits, to which white cocks are also offered as well as being often used in magical ceremonies.

Certain large trees also get the reputation of being sacred, and it is these which are said to be haunted by a snake-spirit, and also to have a *badi*. As has already been noted, offerings to 'Toh Panjang are frequently hung on a tree growing at the mouth of the Patani River, and there is a sacred place only a few hundred yards up stream from this tree which is known as *Kramat Perapit*, because a *perapit* tree, a kind of mangrove, is said to have formerly grown there. It is sometimes stated, moreover, by the natives of this district, that all trees are sacred, in that spirits frequently rest upon them, and there are many Patani men who will not take shelter under a tree at any time on a Friday, or at sunrise, mid-day or sunset on other days—these being the times when spirits are most powerful—lest the spirits sitting in the tree might dive down into them. The precaution especially applies to travellers, whose bodies are weary and whose souls are, therefore, weak.

The peaks of mountains² are as a rule held sacred in lower Siam, and white flags are often attached to the top of the highest tree upon them, accompanied, not infrequently, by a *baling* or musical wind-mill.³ On Bukit Besar, between Jalor and Nawngchik, both Mahomedans and Buddhists resort to the top of the mountain, and sometimes spend the night there fasting, in order to obtain the gratification of any wish. A curious belief, perhaps more Siamese than Malay, has it that no man can become a really great magician in any country in which the peaks of the hills are rounded, and that, therefore, the state of Patalung,³ in which there are

1. At the Siamese village of Ban Kassôt, on the Jalor-Rhaman border, we found the population being rapidly decimated by some form of lung disease, apparently tubercular. Their houses were small, dirty and airless, though they were well-to-do enough. I gave them a lecture on the germ theory of disease, adapted to suit their comprehension, translating 'germ' by the Malay phrase *hibu penakit* (mother of the sickness). They replied that they knew the mother of the sickness must be ever with them, for they lived shut in between three hills, right in the pathway of the spirits, which were continually passing from one hill to another. Our Malay servant quite agreed with them.

2. *Antea*, pp. 7, 8.

3. The Patalung people, who are partly of Malay origin, still enjoy a very bad reputation in the Malay Peninsula, and are said to have formerly been dacoits, whose bands, frequently led by women, penetrated as far south as Kelantan. They were believed to have the power of rendering themselves invulnerable by a ceremony considered very wicked, during which they, like many Burmese dacoits, inserted coins or medals beneath their skin. A Patani Malay told me that the curious thing about them was not that they could make themselves invulnerable—many people could do that—but that their invulnerability did not wear off when they visited a foreign country, whereas, in other cases, it disappeared as soon as the charmed person 'left his own water,' that is to say, went into a district not watered by his native river. It is interesting to contrast this idea with the belief recorded by Skeat among the Kelantan Semangs, that the man-tiger can only manifest his power at a considerable distance from home or in another valley (*Journ. Anthropol. Inst.*, 1902, p. 137).

many conical hills, produces the most powerful medicine-men¹ in the Malay Peninsula ; it is for this reason that charms and amulets from Patalung enjoy a great reputation in the Siamese Malay States. Caves, too, are often said to be *kramat*, as the residence of the *Hantu Parai* or Peris, which the Patani Malays regard as spirits of the rocks ; and when a cave has been made into a rock temple by the Siamese it has always been regarded as a true shrine by the Mahommedans of the neighbourhood, for they believe that the Siamese idols are not mere images but actually 'have a spirit'²—an evil spirit, of course, but one of which use can be made. In a cavern near Biserat a Siamese, or, more probably, a Chinese governor of Senggora, who made a tour through the Patani States at the beginning of the nineteenth century, caused a gigantic recumbent statue of Buddha to be made, and other persons, since his day, have surrounded it with many others of a smaller size, two of which are said to represent the mother and father of Gotama. This cavern is frequented by Buddhists, Mahommedans and Chinese, all of whom regard it as sacred, bringing their sick to be cured by lying for a night on a shelf of rock just outside, and casting lots in the cave to find out whether any undertaking they may have in hand will prosper. This they do by means of a pear-shaped bamboo or rattan root, which has been split longitudinally into two equal halves and generally lies on the altar. They clasp it between two palms, and after doing reverence to the great statue and muttering a formula, separate their hands in such a way that the two halves of the root fall to the ground separately ; the omen is favourable or the reverse according as they fall on the rounded or the flat side, and the ceremony is always repeated three times.

In that part of Upper Perak which was formerly under the rajas of Rhaman, the Perak river is beset with rapids, at the upper end of which there is, in several instances, an upright rock in which some natural resemblance to a human figure can just be traced. These rocks³ are *kramat*, being called *berbala*, or idols of the Malays, who always make an offering to them before shooting the rapids, addressing the spirit which lives in them as *Datoh*. The steersman, or one of the other raftsmen, stands up in front of the raft with a banana and a chew of betel or a cigarette in his hand, and after a speech, in which he explains to the spirit of whom the party consists and what is their business, asking leave at the same time for them to pass, throws the offering at the 'idol'

1. *Antea*, part 1, p. 60.

2. On our journey from Senggora to Kedah a Patani Malay pointed out to me a Buddhist monastery, where, on a former occasion, he said that he had seen the 'spirits of the idols' (*hantu berbala*). They had hovered over the temple in form like the images on the altar, but of monstrous size. The man was subject to fits or seizures of some kind.

3. These upright rocks may be compared with the broken stalactites before which the birds'-nesters on the islands of the Talaud Sea do reverence on starting to their work in the caves (See *Sci. Geograph. Mag.* 1900, p. 520 ; and *Man*, 1903, No. 79).

as hard as he can. The ceremony is also practiced by Chinamen, who sometimes let slices of melon, stuck full of cigarettes, float down in front of them ; it is called by the Malays 'doing obeisance to the idols'—a curious description of his own actions in the lips of a Mahommedan. At one place, a little above Janing, the Malay who throws the offering and makes the speech frequently has a white cross marked with lime upon his back, but I was told that this was only customary at this particular spot—the head of the Jeram Panjang, or Long Rapid, reputed the most dangerous on the river. On the navigable part of the Patani River there are no dangerous rapids, but at the mouths of tributaries, which are liable to be rather risky spots after heavy rain, a small mound is often stuck with white flags and regarded as a sacred place ; the boatmen scattering rice on the water as they pass it.

Perhaps, however, the majority of sacred places in the Patani States, where they are more numerous than in Perak, are the reputed graves of great medicine-men or living shrines, which are said to be visited by spirits as well as men. The latter bring little white flags¹ as offerings, light candles and incense, kill a sheep or some fowls, or even a white buffalo, and make a feast near the grave, offering certain parts of the victim to the person who lies within. The same things are done at the graves of Mahommedan saints such as 'Toh Panjang. 'Toh Ni, however, was so very great that his grave is not very much more revered than any other place connected with him, at least so I was told on the Patani River, but my informants did not appear to know where the grave was. At Kota Bharu, Rhaman, the cemetery of the other rajas of that state is regarded as a sacred place, and it is said that sick persons are sometimes laid on the graves for a night.

Any manufactured object habitually used in magical ceremonies is *kramat*, and in many cases is rendered so by a ceremony of sanctification ; while other objects, the possession or presence of which has been fortuitously accompanied by good luck, have the same term applied to them, though, perhaps, not quite in the same sense. Objects² also of any peculiar form supposed to be lucky are occasionally described in the same way ; thus certain kinds of flaws in the blade of a knife are, in Rhaman, considered sufficient to ensure good fortune

1. These flags are made of fresh cotton cloth, not old rags, and the sticks to which they are attached, in the Patani States, are tipped with a conical piece of cocoanut husk—perhaps a degenerate phallic emblem ; while in Perak they appear to have no such termination. The Malay name of these flags is *panji-panji* ; occasionally they have an elephant drawn upon them.

2. Such objects are also said to 'have luck' (*ada tuah*), the quality being evidently considered as individual and not as common. Indeed, it is difficult to say, exactly, how far this luck is a mere quality, or how far something of the nature of a degenerate guardian daemon. I have never heard any numeral co-efficient applied to the word, and it expresses something possessed by the spirits themselves, but when I was asking Patani Malays which animals had a *badi*—an actual spirit reckoned by the same co-efficient as other spirits and as animals—I often got the answer, 'No, but it has luck.' Thus the ground dove has luck, while the turtle dove has not ; the cow and the ox have luck, while the buffalo has not. The luck of human beings is said to be greater than that of spirits, and this is why the latter generally disappear when a man approaches them.

to the person who wears it, and the knife is said to be *kramat*. In Patani a knife was sold to me by a Malay, who asserted that it was extremely lucky because the sheath was made out of a piece of cane on which there were natural markings somewhat resembling the word 'Allah' in Arabic characters, but this possibly was 'saint-sacred,' though I failed to ascertain precisely the light in which it was held. It was lent or hired out to persons starting on the Mecca pilgrimage, and was said to have invariably brought pilgrims who took it with them back in safety from Arabia.

To return to the more usual sense of the word under discussion, the special clothes worn by medicine-men¹ and women during their ceremonies of incantation, the fiddles used in calling spirits, whether in dramatic performances or in magical ceremonies, the bowl which acts as a censer on similar occasions, the magic rods used in divination and in expelling spirits, and all other 'apparatus' (*perkakas*) of the kind, are *kramat*, not because in themselves they impel or coerce the spirits, but because, when associated with the proper ritual music and words, they attract any wandering spirit which may be passing, as a female story-teller in Patani explained to me. But if a medicine-man (or woman) does not hand on his art to a pupil before dying, the actual apparatus which he used will become or generate a spirit (*jadi hantu*), which will be very savage. Objects included in the magic paraphernalia are specially sanctified before they can be used, and are, as it were, introduced to the spirits' notice by a ceremony at which the *bantu* are induced to assemble by being offered representative morsels of a sheep or goat, upon the rest of which the medicine-man and his friends feast at the same time.

In the foregoing pages I have attempted to describe, so far as my knowledge and the space at my disposal permit me, the ideas that circle round the word *kramat* in the Patani States. It is evident, I think, that these ideas do not form a system, being rather a jumble of confused and sometimes incongruous superstitions, some of which have been influenced by Arabic thought while others recall the pagan times before Mahomedanism reached Malaya, suggesting that in those early days—not so very early in actual time—a mixture of animal-worship and hero-worship was widely spread, tinged on the one hand with pure idolatry and on the other with phallic rites, both possibly derived from intercourse with Hindu culture. Though the particular form which the reverence for the tombs of departed heroes assumes in this district may be

1. Story-telling is regarded as a branch of magic in the Patani States, because the person who tells the story, if it be one of the recognized tales told in the fashion known as *Main Putri*, or Princess Play, must first be inspired by becoming possessed by a spirit. The story-tellers in Patani town are mostly women, and, seeing that the profession is one that taxes the constitution, owing to the convulsions and acrobatic feats inseparably connected with possession, they are rarely past the prime of life. When they get too old to practice themselves, they make a certain amount of money by hiring out their magical apparatus to younger women. Fifty cents an evening is the usual fee paid by the borrower, but a very famous performer may charge more.

characteristically Mahommedan, there is reason to believe that here, as in so many other countries, the system itself is a primitive one, and that just as in our own university towns all stories of some particular type become periodically fathered on some personage notorious for wit or the reverse, so it is probable that among semi-civilized tribes like the Patani Malays all stories of supernatural power that may be floating in popular tradition periodically settle round the name of some great magician like 'Toh Ni, until a greater than 'Toh Ni shall arise.

INDEPENDENT SPIRITS

The Malay word that I have translated 'independent spirits' is *bantu*. Many beliefs regarding these beings have been mentioned already, but it will be necessary, before dealing with the genera and species into which they are divided by the Patani Malays, to consider what conception these people have of a spirit in the abstract, and to enquire what, in their opinion, is the origin of spirits. To the majority of the persons I questioned, most of whom were men, a spirit was evidently an individual, possessed of certain powers to which it was quite conceivable that a living man might attain; the chief of these being the power to remain invisible to human eyes, the 'great science,' as it is frequently called, and the power of change of form and size. Though my informants said that a spirit had no body, yet they regarded it as material thing, which, even when they could not see it, might be detected by the ear or by the nose, or even by the sense of touch; they declared that the passage of a spirit could be heard, that it brushed aside the foliage through which it made its way, that contact with it caused a shiver to pass through the limbs, that it 'stunk like a civet-cat'—no empty metaphor, seeing that the half putrid, half aromatic odours which frequently assail the sense of smell in the Malay jungle are actually regarded as evidence of the presence of a *hantu*. If a visible spirit is wounded it bleeds profusely, but both it and the blood disappear immediately; it can be actually killed by being stabbed with a dagger made from the midrib of the leaf of a *nipa* palm, in which case a stick or a stone remains.¹ A spirit, moreover, except in respect of its peculiar powers, is not superior to a human being, but inferior; it is less 'lucky,' more akin to a wild beast, nearest akin, perhaps, to a member of one of the aboriginal tribes, which, as I have already pointed out, are hardly considered human. Yet, in a way, it is lower still than even a Semang, who is colloquially reckoned as a 'person' (*orang*), and frequently names himself 'the man.' It is well known that the use of numeral co-efficients is far more extensive in the Malay

¹ This idea is probably Arabic, *Cf.* the stories of Jinn in the *Arabian Nights*.

language than in our own, and that the Malays reckon all animals, even frogs and slugs, by the tail, just as we reckon cattle by the head ; but the Patani Malays go further, reckoning spirits¹ in the same way as beasts. Spirits, in their opinion, are not reasonable beings—they cannot think ; they believe what they are told ; being in a way mere essences themselves, they cannot distinguish between a shadow and a reality, between a picture and its model. If a promise is made to a spirit it is sufficient to fulfil it by any subterfuge, to substitute a sham offering for a real one, an effigy for a true victim ;² I have even known a case where a spirit was promised two wives, and was given two little female figures modelled in dough, apparently quite to its satisfaction. Similarly, under certain circumstances, with which I will deal later, a human soul cannot distinguish between its own body and a conventional image thereof. The lie, too, may be spoken. The hunter cows the spirit of his prey by telling it that he, the slayer, is King Solomon, Alexander the Great, the Archangel Gabriel, any great man or being—he may tell it in the same breath that he is several totally different persons, for even consistency of statement is unnecessary—the spirit believes, trembles, and submits, and the offence of killing does not lie at the slayer's door. The majority of spirits are regarded as utterly non-moral ; they are certainly not good, they are only 'vicious' (*jabat*) in self-defence ; for, unlike the mermaid of Teutonic legend, who sought for a soul, they continually seek for a body, and if they find a man whose soul is weak they drive it out and take its place ; they are never wicked in the sense that the Christian Satan is wicked, for they neither tempt mankind to evil nor are conscious of evil in themselves.

Such, in brief, are the views held by the Patani Malays as a people regarding souls, ghosts, and wandering spirits, but a small minority of my informants, composed of a few elderly peasants in Jalor, seemed rather imbued with a kind of primitive pantheism, or, more accurately, pandaemonism, believing that all mundane spirits, whether they were called by Arabic or by native names, were really one, pervading the whole world, only called by different names according to the environment in which the universal spirit of evil was considered for the moment—Hantu Laut if it were at sea ; Hantu Raya in the jungle ; Saitan in religious works ; Jinn, Pelesit, or whatever else, in different circumstances. As one old man expressed it in my hearing, 'It may be hot here and at Mecca at the same time, and the heat is the same ; so

1. This is only the case in the colloquial dialect of the Patani Malays, for spirits are reckoned as 'persons' even in conversation among the Malays of Perak and in the written charms used by Patani *bómor*. Too much stress must not be laid on the point, interesting as it is, for if a Patani man is asked how many children he has, he often replies, jokingly, 'I feed so many tail,' as if he were talking of his cattle or sheep ; but his phraseology may be partly due to the reticence with which Malays sometimes speak of their families, fearing to bring ill-luck upon them. The expression 'five tails of Chinese' is also a scornful jest.

the spirit may be here and at Mecca at the same time, and the spirit is the same.' Nor was this old man an educated person, or even a particularly good Mahommedan. He went on to explain that the spirit could break itself into one hundred and ninety parts, and that the great *bômor* was the person who could cause it to do this and could keep all the different parts under his control. I asked him whether the spirits of dead men were also part of the universal spirit, but he said that they were different. Several other old men in Jalor afterwards corroborated this view of the spirit of evil, which, they said, was subordinate to Tuhan Allah, but when I chanced to mention it to an intelligent Kelantan Malay, he looked at me in surprise and remarked, 'Those who know the origin of things are very strong,' so that I am inclined to regard it as a kind of esoteric knowledge which only old men, whose souls are stronger than those of 'new men,' as youths are often called, would dare to mention. It certainly is not a view peculiar to the *bômor*, as my informants in Jalor laid no claim to any knowledge of magical art.

With regard to the origin of spirits I usually got such answers as the following :—'We don't know.' 'They are the slaves of the Lord Allah, who made them.' 'Ask the medicine-men'; they know the origin of the spirits, we do not.' Some supposed that spirits generated their kind like human beings, pointing out the Hantu Parai, which, in Jalor, are said to be spirits of the cliffs, conducted marriage processions from one cave to another. Others replied that spirits, especially these same Hantu Parai, had been known, in the days of old, to marry human beings and to have children by human husbands; while others, again, said that many spirits originated from the magical apparatus of medicine-men who had died without instructing a pupil in their art. The old man who first told me that the spirit of evil was universal also told me that this same spirit was, originally, the Earth Spirit (*Hantu Tanab, Jimbalam Bumi*, or *Siriku Bumi*—he used the three names indifferently), and that the Earth Spirit again was the son of another, whose name was Jinn Semujan. An actor at Ban Sai Kau gave me the following legend regarding the origin of the Earth Spirit, which he described as a female 'in form like the shadow of a person,' but it is doubtful whether he spoke of the same Earth Spirit as the Jalor man :—'The Earth Spirit, which actors fear, is the daughter of Seretang Bogoh, who sits in the sun and guides the winds, and Sang Siuh, the mother of the earth, who sits at the navel of the world (*Pusat Bumi*). Seretang Bogoh visits Sang Siuh in wind and thick darkness, and then there is storm and fog, with thunder and lightning: of these he is the cause. Sang Siuh brought forth four children to Seretang Bogoh, of whom the one

1. Cf. Virgil's '*Felix qui potuit rerum cognoscere causas*.'

2. The *bômor*'s explanations are mere equivocations, mostly derived from Hindu legends.

that actors fear is named Hahlipah, the names of the others are unknown. Seretang Bogoh cannot be seen of men, and Sang Siuh cannot be seen of men.' This story is evidently connected with the incantation used by a theatrical company in the magical overture with which they commence their performance, to which I will allude again in connexion with the Earth Spirits; it is hinted at in an invocation of the same kind quoted by Skeat.¹

It is very difficult to describe the different kinds of spirits recognized by the Patani Malays, both because the names are often extremely local, and because native beliefs are mingled with Arabic ones to a different extent in the minds of different individuals. One man I questioned regarding the number of the spirits, replied that he supposed there were as many different kinds of *bantu* as there were races of men; others said, simply, that they were many exceedingly; others thought that there were two kinds, *hantu* proper and *jinn*, which were the more powerful—so powerful, a Patani man said, that if a man had a tame *jinn* he could cause the meat from another man's cooking pot to come to him. A few old men, as already noted, believed that there was, in reality, only one universal *bantu*. A Jalor midwife said that every person had one hundred and ninety spirits in him, each of which was the cause of some particular disease, and each of which, if it gained the mastery over the rest, could bring about the disease it represented; while several persons in Jalor told me there were three genera of spirits—*Hantu Raya* (Great Spirits), spirits of the jungle; *Hantu Tanab* or *Jimbalam Bumi* (Earth Spirits), spirits of the earth and of the villages; and *Jinn Puteh* (White Jinn), also called Mahommed's Parrots (*Nuri Mabommed*). This classification may be adopted for the sake of clearness, but it does not include the Sea Spirits, and, while in Jalor the *Hantu Raya* are 'great' in the sense of being powerful, and are said never to come into the village of their own accord, in Patani town they are little more than bogeys with which to frighten children who will not come home at night, being described as enormous negro giants, with their mouth slit vertically, who wander about the town at night; while, curiously enough, Si Raya, the Great One, is in Selangor the sea name of Batara Guru, the Hindu Kala.²

The White Jinn. These spirits are not much regarded by the Malays, because, as a Jalor man remarked to me, they cannot be forced to do anything bad. They are also called *Jinn Islam*, and are good spirits, being, in fact, the only mundane spirits that can be said to have any moral character. One

1. *Malay Magic*, p. 505. 'Peace be unto thee, whose mother is from the earth, and whose father has ascended to the heavens!'

2. Skeat, *Malay Magic*, p. 90.

of them takes up its abode in the heart of every Mahommedan and prevents him from becoming wicked. My informants were sure that white men must also have a *jinn* in their hearts, but did not know whether it would be one of Mahommed's Parrots or some other kind.

The Earth Spirits. The Earth Spirits are also called *Jinn Itam* (Black Jinn) or *Jinn Kappir* (Infidel Jinn); by medicine-men they are addressed as *Siriku Bumi*, and they are known to midwives as *Chinei*. They are those spirits which have the closest connexion with men, as they are believed to live in the ground below human habitations, and to attempt, as *Chinei*, to substitute changelings for newly-born children, especially in rich families. They are connected with the ghosts that wear the red caps which confer the power of invisibility, but I have heard it denied that they are identical with them. As *Jinn Kappir* they take the proper form of dogs and are regarded as the guardians of hidden treasure, especially round Patani town, where it is believed, very possibly with truth, that during the Siamese invasions of the seventeenth, eighteenth and nineteenth centuries many rich Malays concealed their valuables and were killed or taken away as prisoners of war before they could recover them. The Jinn sometimes reveal these treasures to persons to whom they take a fancy, appearing as little old men with sacks of gold on their backs. These they put down on the ground, and their favourite can take what he will away; but if any one else attempts to do so the treasure sinks into the earth. It is said that a Patani Malay found a treasure of the kind a few years ago and agreed to give a friend, who was passing, half, on condition that he helped him to remove it and said nothing about it, for secrecy was necessary lest the raja should claim it. The two had stowed the treasure away under a tree, and had gone down to the river to wash their hands, when the temptation to murder his friend, and so to obtain the whole instead of a half, proved too much for the second man. After throwing the body into the river he returned to the tree, only to find that the gold had disappeared. I was told that he was afterwards convicted of the murder and executed. One of our own men, a fisherman by trade, assured me that near the same spot he had met an old man one moonlight night. He had recognized that the old man was not human, because he floated in the air and did not always remain the same size, so he said some charm and the apparition disappeared. The same thing happened three times, and at last our man, in desperation lifted up his own *sarong*, thus exposing his person and so causing the spirit to retire ashamed.' 'I was a fool,' he remarked in telling the story, 'for certainly the spirit had taken a liking to me, and I might have gained the

1. He told me the same story six months later, omitting to mention how he got rid of the spirit. I may say that he was a habitual opium smoker.

great science.' On my questioning him how this might be, he told me that if a man met a spirit he should grasp it firmly without being afraid. It would turn all manner of shapes, but he must not let it go ; it would offer silver, gold, and gorgeous apparel for its release, but the silver would turn to sand, the gold to sawdust, and the clothes to filthy rags. At last it would ask what its captor desired, and he should then demand the great science, and would thus obtain the power to walk invisible. .

The Earth Spirits are also regarded in Patani as being the cause of nightmare,² amusing themselves by sitting on the chests of sleeping men and women and pretending to throttle them ; if a person so treated tells anyone else, they are very angry with him and cause him some further annoyance. They are much dreaded by actors and actresses, and all theatrical performances commence with a ceremony, called 'opening the earth,' in which they are propitiated. There is no stage in the Malay theatre (which is usually a shed built of the flimsiest materials) except a mat laid on the ground, and apparently it is feared that the noise of the orchestra, which is very considerable, would alarm or irritate the Earth Spirits, and that they would retaliate upon the performers. They generally appear in the form of small creeping things, such as ants or scorpions, but can assume any shape they please.

The Great Spirits. The Great Spirits in Jalor are essentially the spirits of primeval jungle, only approaching the abodes of men when they are summoned by a medicine-man, who may address them either as *Datoh Sa Tanjong Bitang* or as *Dob Jenaw Baw Jenaw*. Their chief is called Dewa Sa Alang Sungei, and the following prayer is said to him by those who have to sleep in the jungle :—

Hei, Dewa Sa Alang Sungei !

Mahu tidor. Aku jaga !

Mahu tidor. Aku jaga !

(Ho, Dewa Sa Allang Sungei ! I am going to sleep. Guard me ! I am going to sleep. Guard me !)

The formula is of a sort rare among the conjurations addressed by Malays to the *bantu* as being a prayer pure and simple, quite devoid of any

1. A modern story, illustrating the same principle, is current among the Malays of Singapore ; it was told me at Patani by a man who had lived in the Straits for some years. He said that a gharry driver passing near the European cemetery at night is often hailed by a European lady and gentlemen, who tell him to take them a drive and give him some cigars. At the end of the drive he finds that they have disappeared and that the cigars have become dead men's bones. Altogether, the Singapore *bantu* appear to be more immoral than their Patani congeners, for the same man told me of another spirit which amused itself by bribing the orderly in charge of the Raffles Museum at night to leave his post, giving him a five-dollar note, which turned out next morning to be only a piece of dirty paper. There are many objects of some value in this museum, and it is quite probable that an artifice of the kind may have been practiced by a would-be thief, but I never heard that it succeeded, and my informant was quite indignant when I suggested this explanation of his ghost story.

2. One night at Jambu, after we had been talking of the *hambing gurus*, or mountain antelope (*Nemorhaedus swettenhami*), a Kelantan youth in our service was troubled by bad dreams. Next morning he told me confidentially that a spirit in the form of a *hambing gurus* had been playing with him and had nearly choked him ; he added that the spirit would be angry that he told me. The house in which we were staying was believed by our men to be haunted, because of noises heard at night.

threat or subterfuge, but it is interesting to notice that the only pronoun which appears in it, namely, *aku*, me (or I), is one which would not be used in conversation with a superior, and I think I am right in saying that in all parts of the Malay Peninsula the pronouns used in summoning the spirits are of a familiar, and not a ceremonious nature.

The Great Spirits are not nearly so homogeneous as the Earth Spirits, and a few of the species into which they are divided in Jalor may be enumerated. They include the *Hantu Telok* (Cape Spirits), spirits of the river, which, like the 'Cape Śākaiś' of Upper Perak, live in the pieces of land that are half surrounded by the stream, frequently taking on the form of elephants; the *Hantu Parai*,¹ whose name is said to be identical with that of the Peris of the *Arabian Nights*, who are described as being exceedingly beautiful women, as small as children, and are regarded as the spirits of the limestone cliffs so common in Jalor; the Will-o'-the-wisp, whose name I could not discover, but who was said to be a spirit like the flame of a lamp in form, and to feed on frogs, which he transfixes with a beak like that of a stork; and there are many others of diverse forms and peculiarities. Some people include the *badi* of wild beasts among the Great Spirits; but the majority of my informants said that they were the slaves (*bamba*) of the *Hantu Raya*, as the evil spirits of the deer are called as they are being dismissed, and certainly the hunter asks leave of the Great Spirits before pursuing his quarry in their domain. The Great Spirits, like the Earth Spirits, can assume any form they please, but generally appear like men or like elephants, being only distinguishable from real men or elephants by the fact that they vanish when approached. Their luck is stronger than that of the Earth Spirits, but weaker than that of men.

FAMILIARS

Familiars are individual spirits which have entered into definite relations with individual men or women, whom they serve in return for some definite payment. The great difference, in the Patani States, between the cult of such spirits and that of all others consists in the belief that they cannot be deceived; every promise made them must be fulfilled to the letter, and no subterfuge is possible. They have acquired such intimate sympathy with their human 'mothers' or 'fathers,' as the persons who 'feed' them are called, that they have gained something very like the limited reason of a dog or other domestic animal and, at the same time, have become imbued with a very human desire to be avenged on those who have failed to do their duty towards them. I

¹ These spirits are believed to make the Buddhist tablets found in many of the Jalor caves. They are said to feed on rice planted near the base of their cliffs, leaving the chaff intact for the cultivator.

heard at Jambu, where such practices are very common, of a woman who had had a familiar. It sat on the top step of her house-ladder, and she had promised to feed it every Friday with her own blood. One Friday she forgot to do so, and as she put her foot on the ladder she fell down dead. I cannot say, exactly, what kind of spirit it was that she neglected to feed, for the Malays of the Patani States generally recognize two kinds of familiars, the acquisition of one of which is easy and not particularly wicked, while it is, practically, a criminal offence to keep the other. The more venial familiar is simply called a 'tame spirit' (*bantu jina*); its services are obtained by calling together the spirits to the sacrifice of a white buffalo, and by promising certain offerings, either periodically or on the occasion of any special undertaking, to a definite number of individuals. Six is the usual number contracted for, for it is difficult to feed seven. In Jalor it is customary to regard these six spirits as consisting of three pairs, each of which includes an Earth Spirit and a Great Spirit. At Jambu offerings are sometimes made to spirits of the kind in such a way that both the Earth Spirits and the Great Spirits may enjoy them conveniently. A bamboo pole, the top of which is formed into a kind of funnel-shaped basket, is stuck into the ground in an upright position, generally in some waste place; a platform is formed round it, some way below the terminal funnel, by weaving split cane or bamboo between pieces of the latter material, which are stuck into the pole in a circle; the offerings for the Earth Spirits are placed upon this platform, while those for the Great Spirits are laid above in the funnel. Round Patani town such offerings are usually made in the cemetery or its vicinity and I have not seen any of the poles with the lower platform, the whole sacrifice consisting of a cocoanut, carefully freed of its outer husk, opened and placed in the funnel, and of a wax taper fixed to the side of the bamboo. At Biserat the Siamese commissioner was kind enough to put at our disposal, as hewer of wood and drawer of water, a convict there in prison, a native of Jalor, whose family had produced many living shrines—an eminence which the convict himself, whose name was 'Che 'Teh, hoped in time to attain. He was not a professional medicine-man, but claimed to keep three pairs of tame spirits, concerning which he gave me the following particulars, offering at the same time to teach me how to obtain spiritual slaves myself, if I would sacrifice a white buffalo and study the 'science' under him for six weeks:—He said that he had promised to feed his familiars once a week on eggs, and after he had done so for a month, during which they only consumed the smell or savour of his offering, they commenced to appear to him in the form of ants, and to devour the eggs bodily; but he could not tell me how he distinguished them from ordinary ants—

he just knew. He had given them three female names, each Earth Spirit sharing one with a Great Spirit, and explained that the first pair on the list, which has the commonest and most homely name, was his favourite ; the names were—Meh 'Teh (the female equivalent of his own), Sri Bunga (Madame Flower), and Siti Manang. When he made them an offering, he called out, 'Ho, Sri Bunga, Siti Manang, Meh 'Teh ! Come here ! Eat my offering ! Take you care that my body is not affected, that the flow of my blood is not stayed ! Likewise with the bodies of my wife and children. (If not), I'll turn the earth and the sky the wrong way round !' This formula is far more typical of those used by Patani medicine-men than the prayer quoted above, ending as it does in a ridiculous threat which any being but a spirit would see to be ridiculous. Nevertheless, 'Che 'Teh laughed my proposal to scorn, that he should offer his tame spirits stones like eggs instead of real eggs ; he said that they would know at once, would be very angry, and would cause him to become ill. 'Che 'Teh was a very low and ignorant Malay, even for the Patani States, and had a considerable amount of animal cunning ; he was a highway robber, who spent the greater part of his time in prison and had done so for many years, but I am convinced that he thoroughly believed in his tame spirits. He would not mention their names by night, though he made no scruple in telling me them by day. They appeared to be very little use to him, for they were not sufficiently strong to do much injury to his enemies ; but he was certain that their possession brought him much good fortune. Apparently he practiced divination by their aid, watching the manner in which they consumed the eggs, and the exact way in which they appeared.

The other kind of familiar recognized in the Patani States is a very much more formidable being, which has to be actually made by its 'mother' or 'father' ; when kept by a woman it is called *pelesit* (or, more rarely, *polong*), when kept by a man, *putah rengas*. The great moral temptation which assails those who study magic is believed to be the temptation to make one of these spirits, but the ceremony is so horrible that comparatively few have the courage to undertake it ; its exact nature is a secret which I could not discover, but very possibly it resembles one with a similar object described by SKEAT, in which the exhumation of a corpse plays a prominent part. Women more frequently keep *pelesit* than men do *putah rengas*, and I have not personally come across a case of a male witch of the kind. While we were travelling between Kampong Jalor and Mabek, however, we spent a night at a Malay village called Petai, where we slept in a praying-room belonging to the headman, who was a very

1. Skeat makes a distinction between the *pelesit* and the *polong* (*Malay Magic*, p. 329) ; but I doubt how far it is valid in the Patani States.

good Mahommedan; and when we began to write in our diaries at this place our host became very alarmed, and begged a Siamese official who was travelling with us to ask us to desist. With some trouble I found out what was the matter—the man was afraid that we were writing charms to attract the *pelesit* of a woman who lived in the district, and he believed that the mere fact that anyone in any house was writing Siamese, Chinese, or any ‘science’ (*bilmu*)—in which category he evidently included English—would attract *pelesit* to that house and cause them to devour the liver, or the soul, of its inmates. Our own followers told us that the witch to whom he alluded was notorious, and that she was then living at Kampong Jalor as the wife of the Chinese opium-farmer. She had been the daughter of a Bangkok Siamese of high rank and had married a former *raja mudab* of Jalor, but had studied magic in order to make herself beautiful, and had finally made a familiar. This familiar she had sent to feed on a child, as a *bômor* had discovered, and the raja had ordered his heir to divorce her, had sent a famous medicine-man to free her of her familiar without success, and had finally banished her from his state. The establishment of Siamese power in Jalor had permitted her to return, and she had married again several times, each of her husbands divorcing her in turn because of her witchcraft, until she had sunk so low that she was glad to marry a Chinaman. On our return to Kampong Jalor we sent a message inviting her to visit us. She replied that she had often wished to do so, as she had some things which she thought we would like to buy, but had been afraid that we would cause our men to drive her away. Next day she came, accompanied by a young woman to whom it was said that she had taught her evil arts, bringing some magnificent neolithic implements, which we purchased from her. She was a stately woman of middle age, dressed in a robe of purple silk, with golden hairpins in her well-oiled hair; but the most noticeable thing about her was a peculiar cast in both eyes that gave her the appearance of attempting to look at the ground and up to the person she was addressing at the same time. This was said to be proof positive that she kept a *pelesit*. The burden of her conversation was pathetic—‘I was a raja once.’ We did not question her about her familiars, for she was said to utterly deny having anything to do with such things, and we were warned not to speak of them.

People who keep familiars of this kind must send them to feed on the souls of others, in addition to giving them of their own blood, drawn from the middle finger; and if they are ill their familiars run riot, ‘just like naughty children,’ eating the souls of all they meet. By this means witches can revenge them on their enemies, and when a person is possessed of a spirit, the medicine-man generally proceeds on the presumption that the spirit is a

familiar. These familiars will also bring their 'mothers' the food that their neighbours are cooking, or will prevent a neighbour's snares or traps from catching game. If a snare or a trap does not work when the quarry has entered it, the hunter takes for granted that someone has sent a familiar to prevent it doing so, and submits it to a ceremony of exorcism, brushing out the evil spirit from it with the branch of a tree.

A very intimate sympathy exists between the *pelesit* and its 'mother,' who becomes pale and ill if it has not sufficient people's souls to devour and feels in her own person anything that the medicine-man, who is summoned to cast it forth from a victim, may inflict upon it. When a person becomes possessed, the medicine-man 'locks up' the spirit in the patient's body, causing it to materialize in the form of a hard nodule under the skin of the arm. He then tortures it, by pinching and hitting it, until it confesses the name of its 'mother' or 'father.' He has no guarantee, however, that it may not be lying, and so he shaves off half the patient's hair, with the result that the corresponding hair falls off the witch's head. When the familiar of a Siamese witch enters a Malay who knows no Siamese, the possessed man immediately begins to speak that language, and similarly if the nationalities are reversed : a Chinese familiar would cause its victim to speak Chinese, or a Kling familiar, Tamil.

The modern Siamese law forbids the persecution of witches, but a stronger safeguard for their personal inviolability is the belief that if they are sick or wounded their control over their familiars is at an end. A woman may feed many *pelesit*, and she may leave them at different places with any garment she has worn herself, bidding them to possess people in her absence.'

' MEDICINE '

I have refrained from heading this section of the paper 'Magic,' because it does not seem to me to be possible to draw any satisfactory distinction between magic and religion among a people even so advanced as the Patani Malays. Indeed, if magic be an attempt to coerce the forces of nature by means of cunning, combined with a skilful application of knowledge of the supposed laws to which the spiritual essences, or 'souls,' of things are subject ; if religion consists in reverence for spiritual beings superior to man, and in the performance of rites whereby such spirits may be gratified or appeased ; then it is impossible to say to which of the two systems of thought and practice many of the beliefs and actions already described most properly belong.

In the first place, the Patani Malays, in many instances, draw no clear line between an elemental force and a spirit, or rather they so often personify, one might almost say materialize, the former in their minds that it becomes indistinguishable from a spirit. Thus they believe that the magnetic needle of the compass is actually animated by a spirit, while they conceive of the energy by means of which a telephonic message is transmitted as a being of the same order, for they are no more able to understand so abstract an idea as a form of energy than is the Englishman who talks of the 'electric fluid.'

Again, we often find, side by side in the same ceremony or formula, an attempt to propitiate and an attempt to deceive or coerce spirits. Take, for example, the simple formula, already given, by means of which a Jalor robber summoned his six familiars; it commences with an invitation to a sacrifice and a prayer for the safety of the offerer and his family, but it ends with a threat to revolutionize the universe if the prayer is not granted, this threat being used as a means of coercing the very beings to whom the prayer and sacrifice have just been made.

By medicine I mean no more than the theory and practice of doctoring material bodies, whether by means of material drugs or through spiritualistic agencies. I use the word practically as a translation of the Malay *ubat*, a term which is usually translated 'drug' or 'drugs,' but which is applied equally, at any rate in the Patani States, to all remedies, poisons, and witchcraft. As we have seen in the first part of the paper, the Patani Malays make no fundamental distinction between men and animals, or, indeed, between animals and highly organized inanimate objects, and I think, therefore, that it gives a truer idea of the theories which underlie the religious and magical ceremonies by means of which these Malays attempt to rectify what is wrong, or to injure and disorganize what is right, in the different kinds of organized bodies, if we do not attempt to make distinctions which, however obvious and necessary they may appear to us, do not at all appeal to primitive Malay minds. The fact must not be forgotten that the 'medicine-man,' as I have translated the Malay *bômor*¹ and the Siamese *môr*, whatever may be his knowledge of herbs and other simples, is primarily a person who has learnt how to control spirits without their injuring himself or working extraneous mischief when he summons them; he is greater than one who keeps familiars, because his control is not confined to a few individuals, but to a whole species or a whole class, as the case may be; his remedies, however efficacious as a matter of practice they may chance to be, depend for their efficacy, according to his theories, not upon the material constitution of the drugs he uses, or the material results of such simple operations as he performs, but on symbolical or suggestive

1. In the Patani States the word *paewang*, which is more common in the Federated Malay States, is barely known.

resemblances, often of a far-fetched or superficial nature, or upon influences which we educated white men can only call mysterious, though to the medicine-man himself, if he takes his profession seriously, they are as much a part of the ordinary course of nature as heat, light or sound, even when they act in the first instance on a soul and only indirectly on a body.

Medicine, then, as I have defined the term, consists largely in influencing spirits, whether those inherent in organized bodies or those which, having no bodies of their own, are perpetually attempting to attain one by ousting its proper soul, whose place they take. But in order to have control of spirits it is necessary to understand that the natural laws to which they are subject are not quite the same as those which govern organized bodies, for they are attracted or repelled by many objects and influences, such as verbal and arithmetical formulae, colours, odours, the mere presence of certain substances, and, above all, images, which have little or no direct effect, as even Malays acknowledge, on human beings, animals, plants, minerals, houses, and boats, however striking may be their compelling power in the case of the souls of these very organisms. I do not propose to deal with magical formulae,¹ whether verbal or mathematical, for such matters need a very special study and are of no very great interest in the present enquiry, except in the case of one kind of verbal formulae, which is merely a threat, generally combined with a lie. We have a good instance of this kind of formula in the threat to turn the heavens and the earth upside down, which occurs repeatedly, in identical words, in charms and incantations. Another variety is to tell a spirit that one will reveal its name or origin if it makes itself unpleasant, for the man who knows the true name or origin of any being gains power thereby which may be directed against that being, while spirits have no means of knowing whether what a man says is true or a lie, and therefore obey him when he pretends to be in a position to reveal such terrifying secrets.

With regard to colours, those which attract spirits are yellow and, in a less powerful degree, red ; white is rather the colour of Mahommedanism, of purity and of the righteous dead. For this reason medicine-men when conjuring spirits frequently wear a yellow veil over their heads, while the charms preserved with the 'rice-soul' are wrapped in yellow cloth. When a person is suffering from smallpox he frequently asks, in the name of the spirit which is the direct cause of this disease, for a red or yellow mosquito net and for hanging of the same colour for his bed, and these are at once supplied, though of course the Malays of Patani are quite ignorant of the science of phototherapy, their knowledge that red or yellow light—for that is what it comes to—benefits a smallpox patient being quite empirical and wholly

1. They are mostly the dregs of some highly organized and philosophical culture.

based on superstition. Where innumerable remedies are in use, some must chance to be really beneficial, whatever their theoretical basis may be.

Of odours the most attractive to spirits are those of incense and of sacrifices, while they are repelled by limes and peppercorns, especially by the latter; indeed, a Patani man told me that he had once driven out a spirit, by which a person had become possessed, merely by pretending that he held a peppercorn in his hand, though he was ignorant of the very rudiments of the *bômor's* art. The substance that is most repellent to spirits is iron, of the use of which several instances have already been recorded; the following is another—when we were travelling to Senggora from Nawangchik we noticed that our porters were most particular never to go out without their jungle knives, and when we pointed out that our route lay along the sea-shore where there would be no need of jungle knives, they said that they were afraid of spirits if they travelled without their 'iron.' They told us, moreover, that although they were accustomed to carry jungle knives to keep themselves safe, iron in any other form would be equally efficacious.

The question of the coercion of spirits by the use of images is a very wide one, which the space at my disposal will only permit me to deal with in outline. Perhaps the commonest form that the practice takes is the offering of sham sacrifices, which deceive spirits other than familiars as infallibly as sham threats. In the Patani States sacrifices are of several kinds, there are offerings made on the graves of saints or living shrines (who, of course, are not really dead), those made to spirits still in the flesh (for example, the weekly offering of 'turmeric rice' to the boat souls), and those made to familiars. None of these need detain us, as they are all real; for a mortal body claims mortal food: the sacrifices which are of importance in medicine are those made in fulfilment of a promise to a wild spirit, and those by means of which sickness or misfortune is cast away, the offerings being in both cases at least partly of a counterfeit nature. I have given an extreme instance of the former kind of sacrifice above, in the case where a spirit was promised wives and was given little female figures modelled in dough. At the same time it was presented with a complete set of domestic utensils and a number of animals, both wild and tame, all of which were represented in the same fashion, the whole collection being laid out for its delectation on the embankment of a rice-field just outside the village. At the same time, however, a tray containing the bodies of several newly-hatched chickens, parts of them raw and parts roasted over the fire, and little heaps of real rice of different colours, was also suspended from a tree, the miserable fledglings being represented as fat capons.¹ The spirit to which these offerings were made

1. The art of caponizing fowls is frequently practised by the Patani Malays.

had been called down by a woman learned in medicine, and had inspired her in healing the sick children of the village and in foretelling the future.

Sacrifices to cast away diseases are very frequently made, especially at Jambu, and are, so far as I am aware, always sham. Commonly, they take one of two forms, that of a spirit ship or that of a spirit audience-hall (*balei*), both being known as *anchak*. Until the last few years a very elaborate *anchak* was made annually at Jambu, but now this is only done in times of epidemic or other public disaster; one of the last, if not the very last, of these annual ceremonies was witnessed in the summer of 1899 by Mr. W. W. SKEAT, who has not yet published a full account of what he saw. Private persons, however, still resort very freely to the practice when they are ill, on a more or less extravagant scale according to their means. At Tapah, in South Perak, we saw a full-sized model of a steam-launch¹ about to be set adrift on the river for a similar purpose, though here the spirit-ship was said to be an offering to a saint buried in a shrine by the water's edge, while at Jambu the idea appears to rather be that the 'mother of the disease,' that is to say, the spirit which causes the disease, actually goes away in the ship or deserts the sick person to take up its abode in the audience-hall erected for it. There can be little doubt, from what we heard, that when an epidemic of smallpox raged in Jambu at the end of 1899, many children, including, we were told, some of the Raja's own, were set adrift on drafts, in order that they might take the sickness with them, strict orders being given by the Raja that no one who might find them stranded was to harbour them. The victims chosen were suffering from the disease and not likely to recover, but smallpox being one of the few purely physical diseases always associated with a spirit's actual presence, they would be all the more likely to carry the sickness with them out to sea, though, doubtless, the fear of infection had also something to do with their choice. Spirits boats, even in the Patani States, are of every size and of every degree of complexity, being, when most sumptuous, provided with every necessity for a real ship in counterfeit, including sailors, who are represented by little wooden figures. The ships, however, could rarely sail by themselves, unless they belong to the cheapest kind (which is roughly made out of very light wood), but are, as a rule, mounted on rafts. Their furniture may include a few real articles of little value, such as one or two tin coins and a cockle-shell full of sweet-scented oil. Slip-knots tied in strips of cocoanut leaf are often put in the boats, some of them having been ceremonially pulled undone in contact with the patient's forehead, to loose the disease from him, and some of them still untied, probably to keep the spirit fast in the ship. At Patani children commonly play at sending off

1. It was said that this was a device for smuggling opium; but I am not aware that the suspicion was confirmed.

spirit-ships, using segments of cocoanut husks. When an audience-hall is made instead of a ship it is built in some waste place, generally by the side of the river, and is furnished as a real house would be, except that all the furniture consists of roughly made models in miniature. It has a ladder by means of which the spirit may mount into it, and is itself a small copy of the large audience-chamber attached to every raja's house, but constructed of paper and other flimsy materials; I have never seen one more than two or three feet square. Models of fruit, birds, fish, and prawns, ingeniously plaited out of strips of palm leaf, are often suspended within to give the hall a festive appearance, similar objects being frequently hung up in a room in which spirits are being conjured, in order to make them think that they are summoned to a pleasure garden.¹

Just as spirits may be deceived by sham offerings, and seemingly nourished by them, so they can be prevented from entering places where they are not wanted by the use of sham traps in which they might be caught. For this purpose the stems of creepers that have naturally tied themselves into a knot are suspended over the doors of houses, while the roots of trees that have bifurcated and then anastomosed are sometimes placed in the same position, both among the Samsams of Trang and the Malays and Siamese of the Patani States. At Ban Kassôt we obtained part of a liana stem (*Bauhinia anguina*) that had had a similar employment, being naturally pitted with deep depressions and raised into corresponding elevations alternating along each side, the elevations being co-extensive with the depressions opposite. The spirits which encountered a creeper of the kind would get lost among the pits, and so would be prevented from entering the house it protected. The talons of the serpent eagle (*Spilornis*) are also hung over house doors and over hearths to frighten spirits away, and although their use for this purpose is said to be due to the fact that all spirits fear the cry of this bird, yet it is probable that they too have something of the trap in their theory. All such objects are called *tangkal rumah*, and many peculiarly shaped twigs and roots, the theory of which is not so comprehensible as that of those described, are also included in the term, while certain very complicated specimens have also the reputation of being powerful tonics, or perhaps rather aphrodisiacs, if powdered and swallowed with water; their excellence consisting in their form and not in the species of the tree or creeper from which they are derived.

The practices already described in this section are considered legitimate; for no man's soul is always strong, and every man must protect himself and his possessions against the entry of spirits; but, as was noted in the introduction to the paper, they are not regarded as quite consistent with Mahommedan

1. Cf. *Annals*, part I, p. 51.

saintliness. There are other practices, of the nature of black magic, which are looked upon universally as wrong and morally indefensible. Under this category fall not only matters connected with the making and keeping of familiars, but also attempts to injure another person by the use of images or pictures, in other words, by sympathetic magic. Seeing that a man's soul does not differ in character from any other spirit, free or embodied, and that spirits are incapable of distinguishing between an object and its counterfeit, it naturally follows that, provided only the soul is weak, or can be weakened, much harm may be wrought, directly on the soul and indirectly on the body, by the use of images. Thus, as in this country and elsewhere, a man can be caused to suffer pain if pins are stuck into a wax image of him in which hairs, nail-pairings, or the like from his body have been enclosed. As a rule it is not sufficient to make the image in his likeness and then to use pins; but a form of exorcism must also be employed by means of which his soul is rendered 'soft' and, therefore, sick. Another common practice in Patani is for a jealous wife to have images made of her husband and her rival and to bury them, arranged back to back, at the foot of her rival's house-ladder, having had the proper formula uttered over them. The husband and the rival will then part and go their diverse ways. Many Patani men refuse to put a face upon the dolls they make for their children, not solely because of the Mahommedan prohibition against images, but also in the fear that the face might chance to resemble someone, and the doll might, therefore, be used to work magic against this person, or might even, were it injured or did it become decayed, produce, as it were automatically, a similar effect upon him.

I have already mentioned a charm used at Cape Patani to steal a woman's soul and make her mad, and I now propose to note one or two extremely interesting points with regard to it. It is reproduced in facsimile in the plate accompanying this section of the paper.

The principle of the charm would appear to be as follows:—It represents the soul of the woman, which is drawn, as a soul should be, without feet, joined to the person of her enemy or of the magician who is acting as his agent. The man is depicted in royal attire, with the name of a powerful personage written on his brow, and a number of little signs seem to indicate that the direction of motion is from the soul towards him. His internal anatomy and that of the woman, or rather of her soul—for the soul pervades the whole body—is indicated in a diagrammatic fashion generally adopted by Malay doctors. Had the woman trodden upon the charm, her soul would have gone out of her body to the magician, who would, doubtless, have caught it and preserved it in safety, or else dismissed it to some safe place.

There can be no doubt that the royal attire and the name of the prophet with which his picture are embellished have their purpose, viz., to terrify the soul, which had probably been weakened in other ways, and so to render it easy of dislodgment. If this be so, it would appear that the soul, alarmed and weak, would be unable to distinguish between the body it inhabited and the picture of itself, and would forsake the body, being powerfully attracted to the magician, who was represented as a powerful personage.

Black magic, however, only deals with known individuals, and it is not considered wrong to protect one's goods against thieves on a similar principle. This may be done in several ways, of which I have come across three ; but in each case the charm depends for its proper working on the representation in a symbolical manner of some part of a man's anatomy injured or diseased in some particular, and it is believed that the injury thus pictorially rendered will be transferred to the corresponding part of the thief who eats of the fruit or other food with which the image is connected. Objects used in this way are usually suspended from fruit trees or at the edge of plantations. Their position is always conspicuous, so that they act, practically, as a protection against marauders, no one doubting that their magical action will be effective. The headman at Kampong Jalor, indeed, told us that they did not always succeed from a magical point of view, but the instance he gave proved that he really had a very strong faith in them, even from this point of view. He said that he had once gone into a melon field, and, not noticing that there was a charm suspended in it, had eaten a melon. After the deed was done, and only then, he saw it. In great fear he went home, took a strong dose of purgative medicine, to rid him of the remains of the melon, and summoned a magician to recite over him counter-charms to those with which the dread object had been rendered potent. The object in this case was a bamboo cylinder, into the surface of which a large number of splinters of bamboo had been stuck and on which magic symbols, chiefly the sign¹ (&), had been scrawled in white lime. The cylinder was held to represent a man's alimentary canal (*prut orang*), and was believed to have the effect of causing a thief's stomach or intestines to rupture.

This form of charm is usually employed with reference to cachew nuts or melons ; another form, very commonly hung up on orange trees and the like, consists either of a half cocoanut-shell or of an old water-bucket made of areca flower-spathe (*upik*). The effect of this on a thief is to make his abdomen swell out until it takes the form of a half cocoanut-shell or bucket. The lime marks upon it are different from those on the bamboo ; but I hope to describe the objects in more detail on a future occasion and can only deal with their

1. Called *all lak* at Jalor. Charms of the kind are called *pacak*.

principle at present. The third form with which I am acquainted consists of a living toad¹ tied up in a half cocoanut-shell ; it is believed to cause the body of a thief to swell up like that of a toad.

So far as I could discover, the formula with which the various kinds of charms are prepared only render them potent against the thief himself, and not against any innocent person to whom he may give or sell the fruit. Their interest lies in the fact that they are not directed against known individuals, but against persons who, subsequent to their manufacture, shall assimilate the objects in connexion with which they have been prepared.

Such charms must be distinguished carefully from the road-side signs so common in the Patani States, though the ideas underlying them have certainly become to some extent confused. The road-side signs, which are frequently suspended from trees, are rather instances of picture language ; they include models of elephant hobbles, meaning that no elephant may pass that way, models of the bamboo yoke formerly placed on convicts' necks, meaning 'Trespassers will be prosecuted,' and models of spears, *kris*, and rattan rods, with a similar significance. I have seen a model of the yoke and a bamboo stuck full of splinters hanging side by side on a cachew tree, one showing that the tree was private property and menacing a thief with the law, the other, in case the threat should be insufficient, ready to punish him more directly.

The number of objects which are used by the Patani Malays in protective and curative medicine, even using the word medicine in its restricted sense, is very great. To begin with, as a Malay in Patani remarked to us, 'all animals become medicine.' This is because it is believed that it is possible to transfer the qualities of an animal, which it displays in life or after death, to the human body by administering either its flesh or some other part of it internally or externally. One of the simplest instances of this kind that I know of is the practice of rubbing the ashes of a crow's feathers on the head to prevent the hair from becoming white. This is commonly done in Patani, while in South Perak oil in which the feathers have been boiled takes the place of ashes. In Upper Perak and in parts of Rhaman a black worm of the family *Gordiidae* is used in making a hair-wash for similar reasons ; at Patani the flesh of sparrows and of the 'walking' fish (*Periophthalmus* and *Boleophthalmus*) is eaten raw as a tonic or aphrodisiac, on account of the great vigour of these animals ; while the left eye of an owl is sometimes carried in their belts by people of the same town to prevent sleeplessness, the owl being able to sleep all day.

1. Perhaps the proverbial phrase used of a man who is only acquainted with his immediate surroundings, viz., *sagrupa 'katak dibawah tempurong* (like a toad beneath a half cocoa-nutshell) is derived from this practice.

To carry the principle a little further, the bones of the serow (*Nemorbaedus swettenhami*), one of the most sure-footed of mammals, are believed to protect a man from falling, and, should he fall despite them, are rubbed on the injured limb or body to heal it. The tongue is considered even more powerful both as a preventative and as a cure, and it is said that were a man to fall from the top of a mountain and then rub himself with the tongue of the serow he would be whole forthwith. The serow itself is said to lick itself whole should it meet with an accident.

Medicine of the kind is not necessarily of an animal nature, for many plants and even stones are used in the same way. A native of Patani showed me a belt which he wore to render himself invulnerable. It contained a number of waterworn pebbles bearing a more or less fanciful resemblance to different parts of the human body. The man believed that they actually were specimens of these parts 'become stone' (*jadi batu*). By contact with the belt his body would become as impenetrable as stone.

These instances, which are only a few out of many which might be adduced, are all examples of allopathic treatment, the quality desired being transferred from an object which possesses it in an eminent degree to a body which is, or may be, lacking in it; but Malay medicine is just as frequently homoeopathic, a cure or immunity being brought about by contact with or assimilation of an object resembling the cause of the disease. Thus the simple bangles and anklets of brass or silver wire that Malay children generally wear are really made in the likeness of worms, to protect them against internal parasites. Roots which have the natural form of a snake are preserved as charms against snakes, and also, by an extension of the same theory, against scorpions and centipedes. Moreover, they are also administered internally as a cure for the bites or stings of all these animals, a portion being scraped off and taken with or without other drugs. There is a fine specimen of such a root, collected among the Samsams of Trang, now in the Pitt Rivers Museum.

The theory of all these charms and drugs is too obvious to need comment, chiefly because they deal with an object with which we are well acquainted, namely, the human body; but it is not only the human body which is so doctored. We have seen how the wind can be called by imitating its whistle, and Patani sailors sometimes carry a living specimen of the slow lemur (*Nycticebus tardigradus*) with them, because its cry, probably for the same reason, is said to summon a favourable breeze. The musical windmills used to call the wind have a similar function, and it would not be difficult to find other instances of a cognate nature; indeed, many are given in Mr. SKERAT's valuable work on

Malay Magic. I will call attention to 'one—the use of neoliths (believed to be thunder bolts) as charms against lightning.

The following is an extract from my diary relating to a celt purchased at Jarum in Rhaman :—‘ A man brought a very fine stone adze blade for sale. He said that he had dug it up at Betong, it having risen to near the surface after heavy rain. He advised me not to keep it in the house during a thunder storm, as it would leap about in a very terrifying manner after every peal. On such occasions he himself always buried it in the ground under his house, where it acted as a protection for the house and all it contained.’

Of course the theory of some charms and drugs is obscure, partly because the resemblances between the object and the image are, to our understanding, frequently far-fetched and fanciful, and partly because they have been invented quite fortuitously in many cases. For example, small silver pieces of the Straits coinage are now used as charms to make the rice grow in parts of Rhaman, the origin of the usage being a chance remark made by one of the followers of the ‘Skeat’ expedition, to the effect that these coins were strong medicine. To give another instance, I procured at Jarum a waterworn pebble of rather peculiar shape, something like that of a kidney, which was also a rice charm. The following story was told regarding it :—

Some years ago a man came into the village and said that he lost a black stone, which was a valuable rice charm, on his way from Patani. One of the villagers went out and searched all along the track for some miles until he found a black stone, which, from its peculiar shape and polished surface, he concluded to be the lost charm. Every year since he found it he had sprinkled his rice-fields with water in which it had been soaked, and was quite satisfied that this had increased their fertility.

We must remember, too, that, keen observers of nature as the Malays are, likenesses and differences which are only noticeable to town-bred Europeans after a very careful examination often strike them at once, while, on the other hand, concentrated as their minds often are on matters of trifling import, resemblances of a very superficial nature may mean more to them than those of fundamental importance. It is not obvious, for instance, to a European naturalist, especially to one who has spent his life in a museum or a laboratory, why the Malays should classify the gibbons as squirrels rather than monkeys ; but, on the other hand, I have seen a Malay pointing out to his friends the anatomical differences between a tree-shrew and a squirrel which so nearly resembled it that I have known the mimicry to deceive a very competent British zoologist, until he had made a careful examination of both animals.

CONCLUSIONS

I do not propose to occupy valuable space by weaving ethnological theories out of the threads of convergent development and genetic relationship that run through the records I have made. These records, however, throw light on certain points in comparative religion which should not be passed over in silence.

It is clear from them, in the first place, that the Malays of the Patani States have been profoundly influenced by a culture higher than that to which they have attained themselves. We can strip away Mahommedanism from them and leave their magic and practical religion almost intact, their folk-lore merely derived of certain names and references; but we cannot rid them so easily of the relics of Hindu teaching that permeate all their beliefs—the superstitions of ignorant peasants as well as the theories of the medicine-men. To take one or two instances of this Hindu influence—the story, told me in Patani town, of a man whose soul got accidentally shut up in a jar of water is but a corrupt version of a tale current in different parts of India,¹ whence also comes the belief that spirits have extra power on Friday, with many of the popular names of ghosts and spirits.

In spite of this highly cultured influence, much remains among the Patani Malays of what may be regarded as the common heritage of primitive man, namely, the faith in a materialistic animism, which attributes to all natural and many artificial objects a very definite personality. This personality seems to us mysterious only because we have not been brought up to regard it as a natural fact, a kind of potential energy individualized and almost rendered concrete, what we call a soul. In all things, therefore, soul as well as body must be considered. Souls are spirits, akin to those which have no body, or even recruited from their ranks. Spirits and bodies alike are subject to some barely imagined Necessity or Law, the existence of which is half realized in practice, if not in theory, by the savage, although he cannot give his ideas a name or a form. Primitive man, with the superior cunning which experience teaches him that he possesses as regards the powerful brutes that often form his prey, thinks that he, 'a tiny little thing which can give orders to an elephant,' as I once heard a Siamese youth exclaim, can bend even Necessity to serve his ends. Under the influence of Mahommedanism, Necessity itself has become personified—Tuhan Allah, the Lord God Omnipotent, who reigns in the Heavens far away.

Hence, too, we get magic becoming religion, so that it is impossible to draw an exact line between them. Hindus, Buddhists, and Mahommedans

1. Fraser, *The Golden Bough*, 2nd ed., vol. I, p. 256 et passim.

have taught the Malays to worship, not only to personify and dread, the natural forces into contact with which they come, without teaching their pupils to forego the primitive belief that the very objects of their reverence act in a blind and unreasoning way that proves them readily deceived.

Granted that all organized things have a spirit or soul which pervades their substance and preserves from premature decay, and that this spirit is not a reasonable being but merely a personified vital or preservative force, much of primitive magic is not absurd, as we are often inclined to think, but logical, even inevitable, founded on a philosophical system. If a soul pervades the whole substance of a body, it is natural to regard it as being influenced by the form of that body, and seeing that it is not an integral part of the body but something which enters it subsequent to, or during, its formation, it is obvious that it must become, as it were, adapted by use to the outward form of its material shell.

From these premises sympathetic magic and even the doctrine of signatures can be logically deduced.

The soul is ever liable to escape ; in the case of man it escapes every night when he falls asleep. If only it can be induced to leave its proper body and enter another which resembles it in form, an image of the body to which it properly belongs may be employed by those who know how to coerce spirits in effecting a transference of the kind. Spirits judge, if they do not rather obey laws than judge, solely by external form and appearance, and by the coercive qualities which certain materials possess. Seeing that the soul pervades the body, when a piece of the body—even a hair, or the paring of a finger nail—is removed, a portion of the soul goes with it, enabling the transference from the proper body to one which contains a portion of it to be performed more readily.

Soul and body are evidently regarded as interacting on one another. If something is lacking in the body, something must also be lacking in the soul ; and the converse is true. If it is possible to transfer a portion of the soul of a healthy body to a sick one, it is possible to heal the sickness. As we have seen in the present paper, and as is well known from other sources, many animals are used in the medicine of primitive races because they possess in an eminent degree the qualities which are apt to be deficient in persons, animals, plants or things to which these qualities are of importance. This principle, if correctly applied, is a strictly scientific one, as when a person suffering from the results of deficiency of the thyroid gland is given the extract of the thyroid of some animal to eat. But of course the Malay does not see the matter in this light. If the actual substance on which the qualities depend cannot be

transferred, may not, in the philosophy of primitive races, the spiritual energy bound up with this substance be used to effect a bodily cure or to prevent a bodily want? In order that a man's heart may be invulnerable it must be hard, in order that his hair may not turn white it must remain black, in order his body may remain healthy it must be vigorous. May not it be possible in the belief of the savage who thinks—as many savages undoubtedly do—to transfer the hardness of a heart-shaped stone to his heart, the blackness of a crow's feather to his hair, the vigour of a sparrow to his body, through the spiritual essence which pervades the stone, the feathers, and the sparrow, and that which pervades every part of the man himself. These are obvious cases, and we are so accustomed to speak of a man's soul that it is easier for us to conceive its existence than to realize that a stone, a feather, a plant, and even a house may be regarded by persons less scientific than ourselves as possessing some equivalent spirit, differing in kind and in form but not absolutely different. That the lower races of mankind believe in such equivalents has been amply proved, and the idea that has just been put forward with several notes of interrogation is, I think, capable of explaining a very much wider set of beliefs and customs than that to which the space at my disposal permits me to apply it. How far it is in accordance with certain schools of thought which claim to be philosophical in modern America and Europe, this is not the place to discuss.

My indebtedness, in these and other Anthropological studies, to Professor TYLOR's *Primitive Culture* and Mr. FRAZER's *Golden Bough* is very great, and it is to the personal influence of the former writer that the assumption of such studies is due. I cannot say how much I owe to his ever ready and kind advice, and to the discussions I have had with him.

CUSTOMS OF THE MALAYO-SIAMESE

NELSON ANNANDALE, B.A.

CUSTOMS OF THE MALAYO-SIAMESE¹

By NELSON ANNANDALE, B.A.

UNDER the above heading I propose to put on record the notes obtained by Mr. ROBINSON and myself regarding the practices that centre in birth, death, circumcision, marriage and the social system, among the mixed Malay and Siamese population of the Patani States and Senggora. As we spent nine months among these people (for whom we have coined the name Malayo-Siamese to distinguish them from the true Malays of the southern half of the Peninsula on the one hand and from the Samsams of the West Coast on the other) we were able to obtain fuller information about their customs and ideas than was the case with any other tribe whose ethnography we investigated ; but it is natural, seeing that we spoke Malay and not Siamese, that we should regard these customs and ideas from the Malay (*i.e.*, the Mahommedan) rather than the Siamese (*i.e.*, the Buddhist) point of view, and it would need a very much longer stay and a far more intimate relationship with the people to know their customs thoroughly and in detail. I can merely offer an imperfect, but I trust an accurate, outline.

BIRTH CUSTOMS

Our information about birth customs was chiefly obtained at Kampong Jalor from the statements, made to Mr. ROBINSON and myself, of two rival *bidan*, or midwives, both Malays, but both in practice among Siamese women as well as those of their own religion. There is reason to believe that in many details these customs are very local, and that what is true of the country districts of Jalor is not necessarily true of the town of Patani. On main principles our informants agreed, but they differed in minor details, having had different teachers (*guru*). We did not find it possible to be sure that they were telling us the truth with regard to the plants they used as drugs, such knowledge being a jealously-guarded trade secret. I have, therefore, omitted such information of dubious accuracy as we were able to obtain

1. This paper must be regarded as a section of Part IV of our 'Contributions to the Ethnography of the Malay Peninsula.' My colleague's absence in Malaya has rendered a sub-division of labour necessary. He will deal with our series of measurements on the living Malayo-Siamese, and also with their dwellings, etc. ; while, in addition to the present paper, I propose to describe the collection of skulls and skeletons.

regarding their pharmacopoeia, only noting that it appeared to be chiefly vegetable, and that they acknowledged that the Semang tribes were far more skilful than they in this respect. To avoid misunderstandings, we interrogated each of them several times over, and put the same questions in slightly different ways on different occasions.

When a birth is expected in a Malay or a Siamese house in Jalor, large quantities of firewood are collected on the platform and various substances regarded as obnoxious to the Earth Spirits are suspended beneath the floor, as it is these spirits which are believed to be dangerous to parturient females and young children. These substances include a variety of prickly leaves, on which the spirits might be supposed to scratch themselves, and the calcined shell of the king crab, *Limulus rotundicauda*, to the smell of which spirits object. (Curiously enough, the shell of the closely similar *Limulus moluccanus*, which differs somewhat in habits, is not used). An arrangement is made at the same time with a midwife (or, in the case of a rich family, with several) to whom a retaining fee is paid in money or kind.

During pregnancy a woman is not allowed to eat cold rice or to drink cocoanut water, as these substances are believed to render the head of the foetus hard and incompressible, like a cocoanut, and so to make labour difficult. Especially during the first six months, her husband must not kill or maim any living thing, or even cut a creeper with his jungle-knife, lest a similar mutilation should be brought about in the unborn child.¹

At the same period many different drugs are administered as tonics ; for example (among both Malay and Siamese women), a kind of earth dug out of the banks of the river at certain places and roasted, and (among the Siamese only) the flesh of monkeys, especially of *Presbytes* (*Semnopithecus*) *obscurus*.

Professor B. MOORE has been kind enough to examine specimens of this earth. The following are the results of his analysis :—

‘The earth was finely powdered and examined, chiefly for organic matter. The total organic matter, as shown by incineration of a weighed quantity of dried and powdered earth, is very small, amounting to less than five per cent. The inorganic matter consists almost entirely of silicates and aluminates, there being no effervescence when the powdered earth is treated with a dilute mineral acid.

‘The search for nutrient organic matter was conducted by making extracts with cold and warm water, and with dilute acid and alkali, both in the cold and at boiling temperature. The extracts were afterwards tested for proteid and carbohydrate by the usual tests, but the results were in all cases of a negative character.

‘Dilute alkalies give a brown-coloured extract, turning darker on boiling and demonstrating the presence of humous substances. The presence of such humous material is also shown by the presence of minute rootlets in the earth. Traces of iron are also present.

‘The results of the examination incline one to believe that the earth is nothing more than a silicious river mud, containing nothing of a nutritive character.’

The specimens examined were bought in the Malay market in Patani town. Men, and also women who are not pregnant, sometimes eat the earth.

The birth takes place inside the house, and only the *bidan* (who may, in rare cases, be a man) and her attendants are present, unless the woman is moribund, in which case her husband is summoned to bid her farewell. A difference appears to exist in the attitude of parturition in Jalor and Perak, for though in both states the woman squats on the floor, in the Siamese one her hands are held behind her back by an attendant, while in Perak she clutches a ring suspended from the roof of the house and provided with a number of imitation weapons of wood and bamboo, which dangle from it. They are believed to scare away evil spirits. There is a specimen of this contrivance in the Perak State Museum, and I am indebted to Mr. LEONARD WRAY for calling my attention to it and explaining its use. As a rule, the chief duties of the *bidan*, in Jalor at any rate, consist in reciting charms to scare away the Earth Spirits, and in treating the mother and the baby after parturition; but, should labour be difficult, she applies external pressure to the abdomen. After delivery the mother has plasters of various herbs applied to her breasts and forehead, to prevent fever or delirium, and a large stone, generally of an oblong or oval shape, is wrapped in cloths soaked in hot water and pressed against her abdomen just above the pelvis, first on one side and then on the other. She is then placed on the kitchen platform of the house, in front of a large wood fire, and thus ‘roasted’ for a longer or shorter period, the process being repeated at intervals during her forty days’ seclusion.

During this period she is not allowed to leave the house, and its conclusion is marked by a special ceremony of purification, after which she may resume intercourse with her husband and go about the village.

Three, five, or seven days after its birth the child, which is suckled from the beginning, is ‘taught to eat,’ a mixture of honey and certain other substances being smeared on its lips. Suckling very often goes on for some years or until the birth of another baby, but in some cases bitter drugs are smeared on the breast in order to induce a child which is not shortly followed

by a brother or sister to desist. The milk from the left breast is supposed to be more nourishing than that from the right, the former being compared to water and the latter to rice.

Labour, according to our informants, is frequently very difficult, lasting not infrequently for a whole day. The death-rate, too, seems, from their accounts, to be enormous. One of them told us that she had attended eighteen births herself in the preceding year, and that three of them had proved fatal; she added the remark, that 'some *bidan* were very careless, and lost a great many of their patients,' evidently not meaning the reflection to apply to herself. She said that the deaths usually occurred some hours or days after parturition. Madness or delirium at this period is known as *gila meriyang*, and is believed to be caused by a spirit called Jinn Mensiah.

Twins appear to be rare. They are not regarded with any suspicion, but are considered lucky rather than the reverse. It is otherwise with triplets, which are 'accursed' (*chelaka*). A case had occurred, at which both our informants were present, some years previously in a Malay family in Jalor. The Earth Spirits had been very strong during the birth, and had possessed the younger of the two midwives, who had become delirious. The 'roasting' ceremony had been performed under the house instead of in the kitchen, and the woman had been forced to spend her forty days' seclusion in this ignominious position on a mat on the ground; she was said to be 'just like a dog'—a phrase which, curiously enough, is applied to the mothers of twins in certain parts of Africa. The three children all survived and grew up healthy; their father has been known, since their birth, as Pa Tiga, 'Father of Three.' It is believed in Rhaman that in a case of the kind one of the triplets will become raja of the country, his two brothers being his chief ministers. Hence, under the old *régime*, triplets were always killed by the reigning raja, as being a menace to his throne, even if they did not all chance to be boys.

One of our informants had had two cases of monstrous births—a child with a face like a pig and another with a face like a monkey. The mother of the latter had also been the mother of the triplets. Such abnormalities are believed to be changelings, substituted for the true child by the Earth Spirits, which are also called *Chinei* in this connexion, and many *bidan* claim the power to bring them back to their proper form by 'science' (*bilmu*), i.e., magic incantations, in the event of their being alive; but if they are born dead, nothing can be done.

Should a boy be born with a caul, he is considered very lucky, and the membrane is carefully preserved. Later on, when the fortunate individual is circumcised, he is given a piece of it to eat in a banana. The afterbirth is also, in some families, preserved with salt and pepper, wrapped in a cloth and buried in a waste place, while in others it is buried under a banana tree, the condition of which, flourishing or the reverse, is regarded as ominous of the child's fate. The umbilical cord is always bound with a black cotton thread before it is severed, this operation being performed with a peculiar Bamboo knife, known as *pisau sembilab* and formed of a narrow slip cut from one side of an internode.

Should a child be born with a long head or a 'high' (by which is probably meant a protuberant) forehead, it is the duty of the *bidan* to mould it morning and evening, with her hands, into the short-headed type regarded as the ideal one by both Malays and Siamese.' This is done 'lest the child's companions should mock him.' It should be noted that the type of the head which is thus treated is that of the aboriginal races of the Malay Peninsula, whom the Malays and Siamese regard as barely human. The occurrence of this practice in the Patani States makes the seeming paradox become a literal truth, that in considering skulls from this district one must be prepared to believe that the shortest crania are, in some cases, those which would naturally have displayed the highest degree of dolichocephaly. It is difficult to see why an occasional moulding of the head, which is not confined permanently, should have this result, but an examination of skulls from Nawnghchik, in the opinion of Sir WILLIAM TURNER as well as myself, shows that some of them have been artificially shortened during life.

Artificial abortion is extremely common throughout the Patani States, chiefly among unmarried girls; it is said to be produced invariably by means of vegetable drugs. If brought about before the third month of pregnancy it is not looked upon as morally wrong, because the foetus is still regarded as part of its mother's blood, and because there is little danger to the mother's life. After this date, it is considered a sin (*dbsa*) and is believed to entail a curious punishment, on the Day of Judgment, both to the mother and to the person who has given the drug; they will be forced to eat the foetus between them with 'salt' or 'bitter water,' each being given a knife, compelled to cut off pieces, dip them in the 'bitter water,' and devour them in turn. The idea is very probably an Arabic one. Drugs are also taken, occasionally, to prevent conception, but the practice is said to be very rare and to be regarded with considerable disgust. It is generally the case that only one or two of the

1. In Selangor, however, a cap is used for this purpose (*Skeat, Malay Magic*, pp. 336, 337).

wives or concubines of a raja are allowed to have children, but among the peasants children are greatly desired, especially by their fathers and consequently artificial reduction of the population is only brought about, as a rule, in order to conceal the results of immorality.

CIRCUMCISION

Circumcision is practised among the Malays of the Peninsula, but not among the Siamese or jungle tribes: its obligation is not considered so essential in Perak (where *Kulup* (Uncircumcised) is a common personal name, conveying no reproach) as it is in the Patani States. Mr. LEONARD WRAY tells us that it is considered positively wrong by those Mahommedan tribes of Negri Sembilan which are of mixed Malay and Sakai descent.

As a rule, the operation is performed upon both sexes; but in the case of females it is largely ceremonial, all that is necessary being the drawing of blood from the genital organs, or the cutting away of an almost invisible piece of skin. In Perak and Patani girls are circumcised between the age of ten or twelve, but in Jalor the operation is usually performed by the *bidan* shortly after birth. Any sharp knife is used, but in Perak a special pair of iron pliers are employed to hold the parts during the operation.

An official of the mosque, known by the Arabic title of *mudim*, operates in the case of males, reserving a special knife, very often a razor of European make, for the purpose. In the country districts of Jalor youths are often circumcised in the nineteenth or twenty-first year, never in the eighteenth or sixteenth, which are regarded as unlucky; but the operation is rarely delayed so long in the more civilized part of the Peninsula, as it naturally becomes a far more serious one at this age. In Perak and at Patani the usual age is about twelve or fourteen, while some families, who claim Arabic descent, practise the rite on the eighth day from birth. In Patani, however, it is often delayed till the sixteenth or seventeenth year in the case of rajas' sons, partly because of the expense entailed, and partly because it is regarded, in some families, as almost part of the marriage ceremony, a man not being considered 'complete' (*cbukup*) until he has been circumcised, and his marriage not being legal. The operation is said to be more severe in the Patani than in the Federated Malay States, a far larger piece of skin being severed. The boy is seated astride a banana trunk, and, after he has been drenched with cold water, the foreskin is pegged down in front onto the soft trunk by means of a cleft stick, and then the operation is performed. As a rule the foreskin is buried in the banana trunk, which is thrown away in some waste place; but occasionally it is preserved as an amulet. At the moment of the operation a gun or cannon is fired to keep away evil spirits.

The ritual of the ceremony differs considerably according to the rank and the family to which the boy or youth belongs, but as a rule the proceedings commence with a procession, in which he is carried round the village or town, in some families on a man's back and in some on an image borne on men's shoulders. Sham weapons of wood are carried in front of him. In the case of rajas' families a number of 'sons of princes' 'enter the vernacular' (*masok jawi*)—as the ceremony is termed in polite phraseology—together, with all their companions and followers who are of the correct age. An important circumcision of the kind occurred at Patani while we were in the country, and though we were not ourselves able to be present, we arranged with the master of the ceremonies, a Malacca Malay in our service, that he should write us a daily account of what occurred. Unfortunately, his account was never completely rendered, and the part which we received showed considerable trace of Oriental hyperbole; but the following facts were substantiated by independent witnesses:—The chief person to be operated upon was a step-son of the Raja Mudah (heir apparent) of Jhering, whose wife, a sister of the raja of Patani, had formerly been married to an important, though non-regnant, raja of the Kelantan family, and the expenses were borne partly by the Raja Mudah of Jhering, partly by his wife, who had inherited much wealth from her first husband, and partly by the Raja Mudah of Patani, the elder brother of the Raja of that state.

For many weeks previous to the ceremony a number of Malays were busy in the Raja Mudah's compound at Jambu constructing a huge figure of a bird, which we saw both in the course of its making and after completion; its designer called it a 'peacock-lion bird' (*burong singa merak*), but the Raja Mudah told us that his desire was that the bird should be more beautiful than any one kind of existing bird, and that his workmen had picked out the peculiar beauties of many species and had combined them in one. The body of the figure, which was about thirty feet in length with the tail, was made of thin strips of bamboo, neatly lashed together with split cane and covered with cheap European wall-paper; the tail and wings were of the same materials, the former being painted so as to represent a somewhat conventional peacock's train. But the glory of the bird was its head, carved solidly and delicately in wood, with the trunk of an elephant, a pair of peg-like teeth (said to represent those of a lion) an ox's horns, a buffalo's ears, and a highly elaborate floral ornament sprouting from the top of its forehead. The execution of this monstrous head was very fine, and the whole was brilliant with gilt and paint of various colours. Between the wings, which were small and not very

1. His physical infirmities had caused him to be passed over in the direct succession, but he had inherited the greater part of the family estate.

conspicuous, was a platform, on which the 'sons of princes' were to sit, while their companions of humbler rank squatted on a staging below. We were told that five hundred bearers were necessary during the ceremonial progresses in which the bird played a part, but this was probably an exaggeration.

Similar figures are often preserved for generations among the petty royalties of the Patani States, and it is believed that after a time they acquire a spirit, which will 'devour' (that is to say, possess) any person not of the blood royal who attempts to mount upon their backs. A Malay of the town of Nawngchik kept a similar, but less elaborate, bird for hire, calling it *burong singa chrandawasir*, or 'bird of paradise lion bird,' and asserting that it too was endowed with a living spirit, which would cause any person who approached it without its owner's leave to be possessed and lose his senses. At Ban Sai Kau it appears to be the custom for friends of the family to bring to a circumcision somewhat smaller figures, constructed in a similar manner but representing deer and other animals. One which we saw, dismantled, in this village had its body formed of one of the long openwork cane baskets in which pigs and poultry are carried in the Patani States, while the head was modelled over the skull of a real stag, the horns of which remained in position.

The great ceremony at Patani commenced by the persons who were to be circumcised being borne on the bird from Jambu to that town, a distance of some six miles, and lasted for many days, during which a variety of entertainments were provided for the people and numerous processions took place. The following is the account of one day's ceremonies, literally translated from our Malay's diary :—' On the thirteenth morning of the month, at nine of the white men's time', the Raja of the country took the matter in hand, and there was a noise of gongs, and of drums, and of tambourines, and all the wrestling schools (*skola bersilat*) wrestled,² and there was moreover a noise of cannon, for four-and-twenty cannon were fired, and the noise thereof lasted for the space of an hour. Then the Raja of the country and all the sons of rajas and of great men feasted on all manner of meats in the audience hall of the Raja, and all the plays were played, and while they eat the four-and-twenty cannon were fired again, slowly, one by one. Then a man of the Abyssinian kind³, Abu

1. The Siamese day commences at sunrise, and the twelfth hour is about sunset, after which comes the first hour of the night. The Patani Malays do not reckon by hours, but have certain vague divisions of the day and night.

2. The performance taught in these schools, which are numerous in Patani, is really a war dance. The two performers in each bout do, however, come to grips in some cases—always to slow music—and their manoeuvres more closely resemble those of catch-as-catch-can wrestlers than any other athletic exercise with which we are acquainted in this country. The schools are generally organized by some famous 'wrestler' too old to perform himself. The pupils, until they are sufficiently advanced to perform on their own account, pay all expenses, especially those connected with lighting up the arena, which is generally an open field. In return they receive instruction from the master, at whose house a practice is held every evening. Competitions between rival schools are frequently held, being freely given and taken. On the occasion of marriages or other festivities the wrestling master (*guru*) is paid to exhibit his pupils.

3. That is, a Soudanese. He had been brought as a slave from Mecca and then given his freedom.

Jehal by name, wrestled, and his wrestling was finer than that of the men of Patani, and he overcame many, and all the people praised him. There were present about five thousand persons, both men and women, from the seaside, and from the country, and from the town. But the plays ceased at six of the evening.

'Then, at eight of the evening, the sons of rajas who would enter the vernacular came together in the compound of Raja Mudah Phra Si,' and on that night all the players were assembled there also, and they all played at one time. Then the Raja of Patani and the Raja of Jambu gave gifts to the youths and bade them wear the ceremonial caps that had been the emblems of rank of their fathers before them, and after this they all marched in procession round the hall. Twenty virgins, carrying nothing, went first, dressed in Malay attire of the ceremonial kind, and twenty-six women followed, carrying betel-cases, then sixteen married women bore candles, and two bore spittoons, and two bore the krises of the Rajas. Next came eight men, carrying Japanese lanterns slung two and two on poles, and the four sons of rajas followed who would enter the vernacular. Four *datoh* walked on either side of them, and men held over their heads the umbrellas to which their rank entitled them, and while they marched Arabian fiddles were played and two men sang Malay songs after the Patani fashion and three men chanted in the vernacular. At midnight they stayed.'

Similar ceremonies went on for some days, and then the youths were carried on the bird to to a sacred well² (situated midway between Patani and Jambu), in which they bathed. On another day they were borne up to the gateway of the Raja Mudah of Patani's compound, where men awaited them with drawn swords; the bearers of the bird were obliged to retire three times, and the 'sons of rajas' were forced to exhibit their ceremonial caps, thus establishing their rank, before they were permitted to enter. (This custom, evidently a ceremonial representation of a fight or struggle, has very probably been transferred from the marriage ceremony). At last the boys were seated on the platform on which the operation was to be performed, and, after they had been clothed in yellow, the people were permitted to throw water over them, 'until they sat shivering like men affected by ague.'

One of the 'sons of rajas' was to have been married as soon he had recovered from the operation, but political events occurred which made it necessary to defer his wedding.

1. The Malay rajas of the Patani States are generally known by their Siamese titles.

2. The wives and concubines of the raja who had been accused of adultery were formerly drowned in this well.

During the process of recovery from circumcision boys wear a stiff loop of rattan with an outward flexure ; this is fastened to a short stick, which is secured below the clothes under the belt, and prevents anything coming in contact with the wound. At night they sleep with their legs passed through loops of cane fixed, some little way apart from one another, in a bamboo, which is suspended from the rafters by a string of just sufficient length to keep it an inch or two above their sleeping mat.

Until circumcision, the Patani Malays, and also those of Upper Perak, shave the head, except for a single lock on or near the vertex. It is believed that if this were cut before a youth had 'entered the vernacular' he would suffer from fever. Although just such a lock is retained throughout life by certain Semang and bastard Semang tribes, the custom among the Malays is possibly derived from the Siamese, seeing that it is only occasionally practiced in those parts of the Peninsula which have not been subject to continued Siamese influence. Among the Siamese, children of both sexes wear a lock of hair on the top of their head until they reach the age of twelve or fourteen, when it is shaved off with much ceremony, in which the monks from the nearest monastery, and, if possible, one or more *Pram* or 'Brahmins' are invited to take part. (There are no members of this sacred caste in the Patani States, but in Senggora and Patalung their presence at the rite of cutting the topknot is regarded as obligatory, at any rate among the upper classes). The Malays regard this ceremony as in some way analogous to circumcision, and talk of it as '*masok Siam*,' i.e., 'entering Siamese,' just as they often talk of circumcision as '*masok Malayu*' or '*masok Islam*.' A little son of the ex-raja of Patani, a devout Mahommedan, wore two locks of hair instead of one, very much in the fashion of Chinese children, but this may have been because the present royal family of Patani rather boasts of Chinese descent, probably without historical justification, because a famous queen of that state, who withstood the Siamese with great vigour in the seventeenth century, was a Chinese woman converted to Mahommedanism.

MARRIAGE

The age of marriage differs very much, both among the Malays and among the Siamese, according to economic conditions, family and local custom. Among the Mahommedan inhabitants of the country a girl's marriage is not legal before the age of twelve, though parturition is said to have occurred at ten,¹ or a boy's before he is circumcised, though this ceremony rarely takes place, at any rate in the Patani States, until some years after puberty. Among

1. *Man*, 1902, Art. No. 86, p. 119.

the Malays of Nawngchik boys frequently marry at fifteen or sixteen, in Jalor rarely before they are twenty, and in Jhering, where the peasants are poor and idle, often not before thirty. The early marriages in Nawngchik are very probably due to Siamese influence, as this race is very prone to youthful unions, while Malays hold views far more closely approximating to those of Europeans on the subject. If a Siamese marries young, however, he generally divorces his wife after a few years, as it is customary for Buddhist youths to enter celibate orders, for a period of longer or shorter duration, on reaching the age of twenty-one.

The question of marriage is probably the one which induces more conversions from Mahommedanism to Buddhism than any other, as the Malays invariably refuse to marry an infidel (*orang kappir*); indeed, such a union is, under Siamese and Mahommedan law, illegal. If the woman refuses to become a Mahommedan, there is nothing for it but for the man to become a Buddhist, and it must be remembered that Buddhists and Mahommedans live together in the same village on perfectly friendly terms. A Malay woman who has cohabited with an infidel has to undergo a ceremony of purification before she can marry a Malay. Hence it comes about that there is very little or no intermarriage between the Malay and the Chinese, or half-caste Chinese, population of the Patani States, while such intermixture is extremely common among the Siamese, who are bound by no such scruples; as it is extremely rare for a Chinaman to bring his wife with him from his own country. The following statistics regarding the intermarriage of the two races were obtained for me at Biserat by an official in the Government offices, who assured me that every Chinese household in the village was noted in them, though there were several other Chinamen there at Biserat who were not married and had no house of their own. Biserat is the headquarters of the Chinese community in Jalor, though Chinamen are certainly more numerous in the mining district round Bendang Stah.

The last three men mentioned in the table were not pure-bred Chinamen, but had had Siamese mothers. while the ancestry of the 'Chinese' woman was probably similar. All these families had settled at Biserat within the last ten years, and seemed to regard it as their home; the children were reckoned as Chinese. Not a single Malay woman was living openly with a Chinaman in the village.

Marriages are generally arranged, both in Malay and in Siamese families, by a go-between instructed by the bridegroom or his family, but widows or divorced women often make their own arrangements. Marriage is not legal, with the exception of women in one of these positions, without the consent of

the bride's parents or guardians, even should she have become another person's bondslave; but when the parents refuse consent the girl not infrequently elopes, elopement being regarded as a form of marriage necessitating the legalizing ceremony, but hardly valid in itself.

CHINESE FAMILIES SETTLED AT BISERAT

Name of Householder	Birthplace	Race of Wife	Number of Children
1. Chai	South China	Siamese	2 ♂, 2 ♀
2. Lau	South China	Siamese	3 ♀
3. Toat	South China	Siamese	1 ♂
4. Toh Woh	South China	Siamese	1 ♂, 3 ♀
5. Tuat	South China	Siamese	1 ♂
6. Hong	South China	Siamese	2 ♀
7. Boon Pin	South China	Siamese	Newly married
8. Tun	South China	Siamese	2 ♀
9. Ing Hong	South China	Unmarried	— —
10. Kau Siu	South China	Chinese	No children
11. Kin (Kih) Dam ...	Patani	Siamese	1 ♂, 1 ♀
12. Sing	Patani	Siamese	2 ♀
13. Eh Lai	Patani States	Siamese	1 ♀

The union of first cousins is not permitted, cousins being regarded as brothers or sisters (*suddāra*), and uncles and aunts as mothers and fathers, so that if a Malay is asked what is the relationship between himself and his uncle he will frequently answer, 'He is my father' (*Dia bapa sabaya*), and if further questioned as to what sort of a father, he says, '*Bapa suddāra*,' that is 'brother-father.'

Polygamy, in the sense of having more than one wife at a time, is extremely rare among the Malayo-Siamese peasantry, partly for economic reasons and partly because it is recognized that double unions lead to friction in the family. By law, an ordinary Malay may have three wives, while the Siamese is not restricted as to numbers; but it is generally believed that a reigning raja may have as many as seven, without sinning against Mahomedan tenets. It is not considered correct, however, that he should keep a

large number of concubines, and as a rule he has only one wife, a lady of rank, who would brook no rival to her position, and not more than five or six other occupants of his *barim*. For a raja to make concubines of the maidservants of his household is considered most unfitting, and the social position of a raja's concubine is lower and less enviable than that of a commoner's, because the raja, not being subject in the same degree to popular opinion as an ordinary man, may cast her off at any moment and often neglects to provide for her even while she is in his house, so that she may become, at first secretly and then openly, a common prostitute—a condition regarded as reflecting on her male relatives rather than herself. Among the lower classes, outside towns like Patani, concubinage, though a recognized institution, is even rarer than polygamy, and the children of such unions are regarded as of inferior social status to those born in lawful wedlock. Perhaps the least uncommon form of polygamy among the rice-cultivators is the simultaneous marriage of two sisters to one man—a family arrangement which is regarded as less conducive to discord than the keeping of two wives unrelated to one another. A man who has more than one wife is not bound either by law or by public opinion to provide a separate establishment for each of them, but it is considered prudent of him to do so.

Divorce is very frequent, and although we found that a large proportion of the men whom we questioned had been content to forgo the privilege, others boasted that they made it a practice to cast off their wives at not very infrequent intervals. The Mahommedan rule prevails amongst the Malays, that a man may not re-marry a woman whom he has divorced three times, unless she has been married to someone else in the interval. A man may divorce his wife for any reason, or for none at all, but unless she has deserted him, proved barren or unfaithful, he loses the present that he made to her parents before marriage. A women can also divorce her husband at will, provided that she pays him this gift back threefold ; but she generally prefers to induce him to divorce her, which he may do in a perfectly friendly manner, without attaching any stigma either to himself or to her. If a husband is absent for six months on land, or for nine months by sea, his wife has the right to divorce him free, provided that he has not sent her money with which to support herself in the interval.

The independent position held by women in the Patani States is not without its influence on married life, for a wife, by custom if not by law, is permitted to manage her own property, whether gained by her own exertions or inherited. Consequently it is considered by many young men a misfortune to marry a rich wife, as such a one is apt to be of a domineering nature. A

Patani fisherman in our service had married a rich woman who owned a tenth share in a fishing boat. Although he was apparently quite willing to share her wealth, he was otherwise of an independent nature, and was so worried by the restrictions she put upon his goings and comings that, after taking to opium (just for a joke, he explained, not as a business), he finally departed from her into another village, whence he sent her a letter of divorce, not venturing to cast her off in person.

In the Patani States, Malay society is divided into numerous families (*kaum*), which are so far endogamous that they prefer that their girls should marry within the limits of the family. Each family has its own customs and sets a definite and unalterable price on all its maidens, whether they be beautiful or ugly, skilful or the reverse; this price having been fixed by long-established custom. Conventionally, however, the price is considered not as payment but rather as a free gift presented by the bridegroom to the bride's parents, and even the Patani Malays consider frank marriage by purchase, as practised among the jungle tribes, a barbarous and ridiculous custom. The marriage gift varies in different families from eight to thirty dollars, being higher in the town of Patani than in the country districts, where it is often paid in kind—in cattle, fish or the like.

Such, in outline, are the customs that regulate marriage among the Malays of the Patani States, but though the principles of the Mahommedan law are the same in all parts of the Malay Peninsula, it is probable that the conditions of its application have always been rather different in Perak, seeing that the civilization of that state has had a somewhat different character, having been less influenced by Indo-Chinese factors and, probably, more influenced by communication with Arabia, the Persian Gulf and Achin. Though the women are far from undergoing the isolation customary in many Mahommedan countries, they do not appear to have enjoyed the extremely independent position of their sisters under Siamese rule, who, while theoretically under the absolute dominance of the male, are permitted to carry on their own business and even to make journeys away from home in its prosecution. Moreover, British protection has increased the cost of living in the Federated Malay States tremendously, partly by raising the standard of comfort and more especially by encouraging the immigration of Chinese miners and Indian agricultural labourers. Consequently the age of marriage is much retarded, the marriage expenses of even a poor man amounting to three or four hundred dollars (which he usually borrows from a money-lender), while concubinage is more frequent as being less expensive and divorce far less frequent, the man having paid a large price for his wife. On the other hand, the comparatively

few rich Malays in Perak can afford a greater degree of luxury than their compeers of the Siamese States, and so far are the Malays from respecting the celibate ideals of the Buddhists that they regard multiple marriage as a virtue rather than a vice, saying that a man who has many wives is 'as brave as a tiger;' while they stigmatize the monks of the yellow robe as 'lazy beasts, who do no work and will not marry.' A large proportion of the few polygamists among the peasantry are pilgrims who have sealed their piety by a journey to Mecca, whence also they may bring home a Soudanese or Arabian concubine.

Before the wedding takes place the bride is sometimes submitted to a *bidan*, who reports on her virginity, pretending to base the diagnosis on the way in which the girl's hair grows on her forehead and the shape of her breasts, but probably having other means of investigation. The woman also foretells whether the marriage will be prolific by means of palmistry, and, in the case of the bridegroom, discovers, by the same method, whether sterility will ever be due to him. After the ceremony the bride and bridegroom are supposed to lie together for at least three nights without intercourse, but this restriction is not necessary in the case of old men who are not married for the first time.

I do not propose to deal with the marriage ceremony at length, seeing that I have not had the opportunity myself of seeing a complete wedding, which differs, so far as we could learn, in no important detail from those described by Mr. W. W. SKEAT and others in different parts of the Peninsula. Both among the Malays and the Siamese of the Patani States the essential part of the ceremony, from a symbolical standpoint, is the performance in common by the bride and bridegroom of certain domestic actions, such as eating rice. In many marriages the act instanced is the only one performed in public, while in others the couple bathe together, or rather are drenched with water by their friends, are seated on the same couch, and have their finger nails stained with henna. To make the marriage legal the presence of an *imam* or *kali* is necessary in the case of Mahommedans, while the Siamese, whose ceremony has otherwise become assimilated to the Malay, visit the nearest *wát*, or monastery, to receive the blessings of the monks on their union.

In Jalor neither Malay nor Siamese bridegrooms wear silk or gold at their wedding.

After the wedding the bride and bridegroom are expected to take up their abode in the house of the bride's parents; but the custom has now become largely ceremonial and, as a rule, they only stay a fortnight, after which they are

conducted in procession by the bridegroom's parents to his old home, where they live until he can afford to have a house of his own. The bridegroom, however, cannot force the bride to leave her parents, though her refusal to do so is considered a valid ground for regular divorce, the man receiving back the wedding present.

These customs refer more particularly to the peasants, and among the nobility weddings are very much more elaborate affairs, especially when both parties are of royal blood. A reigning raja cannot marry a commoner in person, but sends a proxy wearing the royal *kris*, who conducts the bride to the royal residence and hands her over to her husband. The royal *kris*, sent to a commoner who has a daughter, means that the raja demands the said daughter as a kind of secondary wife (she is called *bini*—the ordinary term for 'wife'), who occupies a higher position than an ordinary concubine (*gondi*) but is not called *istri*, or consort, and it is to this kind of secondary wife that the limitation of seven, noted above, properly belongs.

Good Mahommedans refrain from intercourse with women on the eve of the first day of the month of fasting, which is otherwise very little observed in the Patani States, and on the eves of certain other Mahommedan 'great days' (*hari raya*). Otherwise, restrictions of the kind only apply to persons whose occupation entails upon them an elaborate series of 'prohibitions' (*pantang*), except that a man may not approach a woman during her menses (in Jalor Malay, *bulan bitan*, or, more politely, *hari yang paya*, 'the difficult days'). In the case of a pregnant woman it is believed that coition between the fortieth day, at about which date it is said that pregnancy can first be diagnosed, and the fifth month would cause the embryo to be 'spoilt' (*rośak*).

In some families in the Patani States, notably in that of the rajas of Jalor (which is said to be of recent Siamese origin, though it is now Mahommedan), the men exhibit a certain diffidence in the presence of their mothers-in-law and wives' sisters, never speaking to them except on important matters or when politeness requires a brief answer to a question, and often leaving the apartment which they enter. A man is said to be 'ashamed in the presence of his mother-in-law' (*malu didapan mentuab*). The position that the mother-in-law holds towards her daughter's husband in Malay folklore is well illustrated by the Jalor legend of the mouse deer.¹

FUNERAL CUSTOMS

The modes of disposing of the dead are most varied among the Malayo-Siamese of the Patani States, including interment, tree-burial and cremation ;

1. Both the *bidan* at Jalor assured us that menstruation rarely occurred before the age of fifteen, never before that of fourteen.

1. *Antea*, part I, p. 101.

and as they differ considerably even in the same community, it will be well to deal with the two peoples separately.

Among the Malays, interment is the universal rule at present ; but it is said that until recently people who had died a 'bad' or unlucky death were frequently cast out to be eaten by dogs and vultures. Persons whose deaths are considered normal lie in state before burial, their relations and acquaintances visiting the body, the face of which is exposed, and taking farewell of their departed friend. Whether this is done in the case of women I do not know. The jaw is bound up, and until burial a piece of iron, generally a knife or *kris*, is laid upon the breast of the corpse, 'to frighten Satan.' It is apparently removed at the funeral, before which the body must be washed seven times. The corpse, wrapped in a white shroud, is carried to the grave on a stretcher, covered with a bottomless coffin-shaped bier of bamboo or light wood, which is buried with it, as the Malays consider it a great crime to permit the earth to fall upon a dead person but think a coffin wrong, as likely to interfere with the resurrection of the body on the Day of Judgment. In Senggora, where the Malays are chiefly the descendants of prisoners of war brought from Kedah in the first half of the nineteenth century, and more rarely in the Patani States, an elaborate tent-shaped frame of white cotton threads, stretched over twigs, is carried above the bier and deposited on the grave (Fig. 4). A stick is stuck into the ground to mark the position of the head and feet of the corpse. The grave itself is dug in the ordinary Mahommedan fashion, being a recess formed in one side of a fairly deep trench. In the case of men a rounded post of wood or stone (Fig. 2), carved more or less elaborately, is usually placed at the head and the foot of the grave, while women have a flattened slab, bulging out at the sides in the centre and constricted above and below (Fig. 3) ; but in some parts of the Patani States a mass of natural crystals is used in the case of either sex, while in Senggora upright tombstones (Fig. 1), rounded above and recalling the less elaborate specimens to be seen in any country churchyard in this country, sometimes mark the head of a man's grave. Very rich or pious persons occasionally have an oblong tent-shaped tomb built up with bricks and mortar, a few sticks being generally thrown across such graves, for what purpose I am ignorant. Probably both the sticks and the cotton framework have the same object, either to keep the dead man's ghost from walking or to prevent the entry of evil spirits from without, for neither would serve as the slightest protection against porcupines or other carrion-eaters. Possibly, however, they are mere scarecrows.

In the case of Malays who have 'died of being killed,' as the phrase is, that is to say, have died in any violent, sudden or unusual way (as by murder,

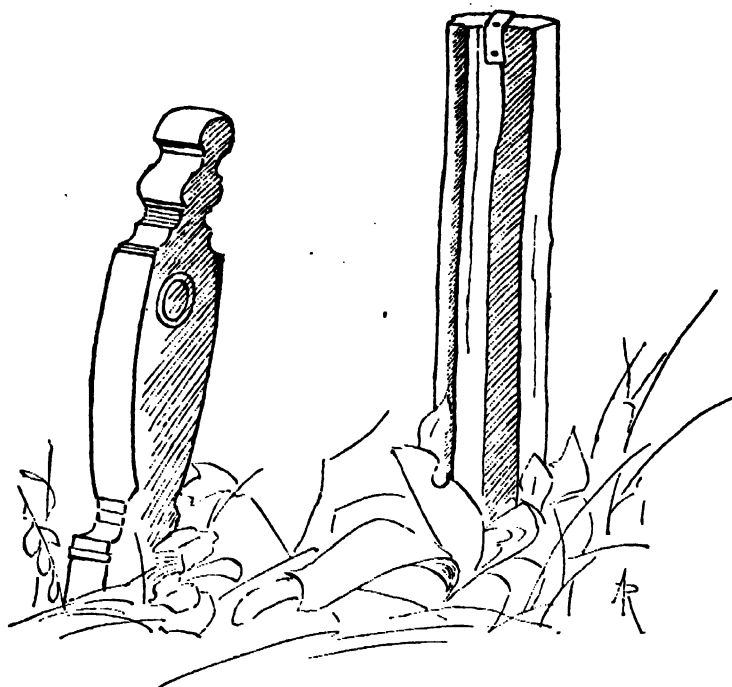


FIG. 1. Female Grave Post. Malay. FIG. 2. Male Grave Post. Malay.
Cemetery near Old Senggora. Cemetery near Old Senggora.



FIG. 3. Grave Stone. Malay Cemetery near Old Senggora.
(The inscription appears to mean 'This is the grave of Adam'; but is by no means clear.
I have to thank Dr. A. S. Cumming and Mr. R. Bell for examining it).

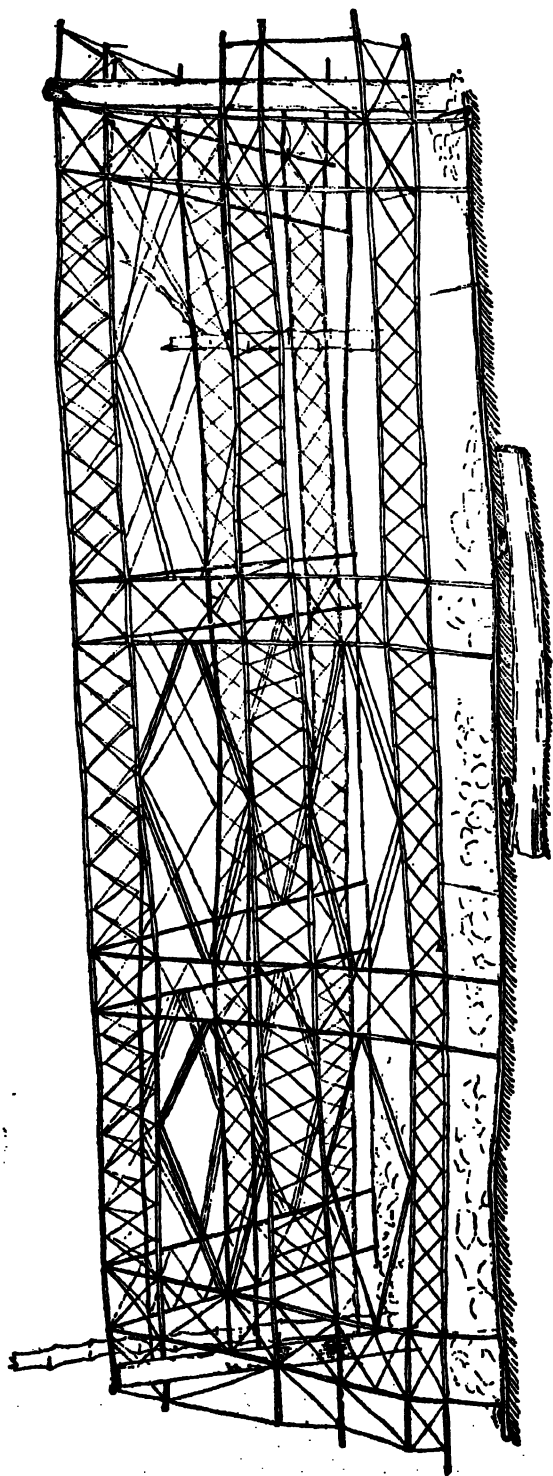


FIG. 4. Network of white cotton threads on new grave. Malay Cemetery, near Old Senggora.
(The branches stuck into the ground at the head and the foot indicate the position of the grave posts which will be erected later).

accident, cholera or smallpox) the body is generally interred in a waste place, a few planks or bamboos being placed above it to prevent the earth falling on it. In the town of Patani, however, a part of the cemetery is reserved for the burial of such persons in a more orthodox fashion.

Among the Siamese of the Patani States, Senggora and Patalung, a body may be either cremated, buried, or exposed (permanently or for a time) suspended between the branches of a tree or between poles fixed in the ground; the first being the orthodox, and the last the indigenous, method. Cremation, sometimes preceded by temporary interment, is the only mode of disposing of the dead officially recognized by the Siamese of Siam proper, except in the case of persons who have perished through cholera, smallpox or other epidemic diseases, the spirit or principle of which, it is believed, would be disseminated abroad by burning the body, which is preserved in a chest or jar in a monastery. The bodies of persons of high rank are always kept in this way for some time before cremation. Among the Siamese of the Patani States, however, burial is almost as common as cremation, though in some cases the bones are subsequently disinterred and burnt, the ashes being deposited behind the altar in a temple. Even when cremation has been decided upon, a shower of rain, by postponing the ceremony for half an hour, may cause the friends to bury the body, as they are always anxious to get rid of it as soon as possible. Unlike the Malays, they dread to look on the face of a corpse, lest it should haunt them in their dreams.

The following is an account of the preliminary ceremonies in a case, that of a poor woman, in which the body was cremated; they were witnessed by Mr. ROBINSON and myself at Ban Kassôt, on the Rhaman-Jalor boundary. (At the moment of the woman's death a sudden gust of wind, which was noted by our Siamese servant, swept through the village, and was believed to be the result of the spirit's passage). That evening we heard a monotonous chant or dirge proceeding from the house in which the body lay, the solos being taken by the village medicine-man (called *môr* in the local dialect of Siamese), who officiated in the absence of the monks, the nearest monastery being at Bayu, nearly two days' journey distant; the dead woman's family and friends acted as chorus. We were afterwards told that they had been reading 'the scriptures of the Prophet Moses,' that is to say, of Buddha, the particular work chosen on such occasions being an account of the various countries—among them Ligor or Nakawn Sitamarat—to which the ashes of Buddha were distributed after his cremation. We heard the chanting again after the funeral, but were informed that on this occasion the friends were merely consoling

themselves by reading an amusing story—all reading in this district being invariably aloud—because they could not afford to hire a theatrical company as rich people would have done.

At first it was proposed that the *môr* should preserve the body by art magic until the monks could be summoned from Bayu, but, seeing that the family was very poor, it was finally decided that cremation should be performed on the following day, the *môr* officiating. We offered to contribute towards the expenses of the funeral on condition that we were permitted to see the preliminary ceremony, and the medicine-man told us that we would make great merit by so doing. One of the woman's sons was inclined to object, and we were unwilling to offend by pressing our offer; but the medicine-man explained to us and to him that a corpse was a mere 'log of wood,' and persuaded the young man to withdraw his objections. Early on the morning after the death a number of men went off into the jungle, returning with a supply of light bamboos and of the leaves of a particular kind of palm which reach a great length, springing from a very short stem. Taking these leaves, cutting off the leaflets down each side, and stripping off the outer surface above and below, they were provided with as many light rods, which could easily be skewered together on strips of bamboo but had sufficient consistency, owing to the outer surface remaining on the two sides, not to break loose. With such materials, and with a few split bamboos to form the bottom, a light coffin was soon constructed, narrowing from the head to the foot; during construction its shape was kept accurate by means of two pairs of poles (stuck into the earth near the head and near the foot respectively), between which it was fastened. Finally, an iron nail was driven in, instead of one of the bamboo skewers, as it was said that no coffin could be kept together unless iron entered into the composition. During the process of manufacture this nail was kept in a brass bowl full of water, in which several pieces of tumeric root and a few grains of rice had also been placed, and from time to time the workmen dipped into the water the few tools they used—simple iron augurs and the little, crooked long-handled knives, called *pisau raut* or 'peeling knives' by the Malays—believing that if they did not do so while making a coffin they would be taken ill of fever. When the coffin was ready it was taken up the ladder of the house in which the woman lay dead and left on the platform while the ceremony of washing the body, for which women had been bringing water in bamboos and earthen jars all the morning, was conducted inside. Taking a bowl of water in his hand, and putting in it some leaves and pieces of bark, the *môr* dashed it on the corpse, the face and loins of which were covered with white cloths. Then the different members of the family, including

a young child, came forward and threw water over the body in turn, the women present being evidently affected, though they made no noisy demonstration of grief. When all had performed the rite, the medicine-man placed the dead woman's hands in an attitude of prayer similar to that often given to recumbent effigies at home, insinuated between them a spray of the flowers of the Indian Shot (*Canna indica*), and bound the two together by means of a hank of cotton thread plaited in between the fingers. The jaw was tied up with a white cloth, the coffin was brought into the house and the body lifted into it by the *môr*, who then placed the clothing worn by the dead woman on it as a covering. A chew of betel was placed by her side. The coffin was carried off by two bearers, who shouldered a pole passed through ropes tied round it, to the place of cremation, which was some miles distant from the village. Rain threatening, a noisy discussion arose as to whether the corpse should be buried or cremated, and the mourners joked, in what seemed a most heartless way, about its lightness; but all of this talking and jesting was probably mere drama, to prove that their souls were unaffected by emotion and therefore strong enough to withstand the ghost. In the end cremation was decided upon and the body was burnt in the coffin, the remains being then interred until such time as the monks might visit the village, when a further ceremony would be performed. No ceremonial impurity attached to those who had assisted in the rites, and in the case of a rather richer funeral, which took place in the same village a few days later, the planks of which the coffin was made were rescued from the flames to be used for other purposes. In each case the house where the death had occurred was carefully cleaned as soon as the corpse had been removed.

During the last century several different kings of Siam have promulgated edicts against the practice of 'tree-burial' in Lower Siam, and it has nominally ceased to be; but when a governor who is ignorant of local usages is appointed in any of the Siamese Malay States, and often on other occasions, a revival of the practice takes place. We found it common both at Nawngchik and at Lampam, though Mr. SKEAT and I had great difficulty in seeing a case in the neighbourhood of the latter place in 1899. In Patalung, and probably in Senggora, the Buddhists appear to practice it whenever an opportunity offers, while in the Patani States it seems to be resorted to chiefly in the case of fatal epidemics; so far as we could discover, it is wholly a Buddhist practice in the East Coast districts, but it is said to be common among the mixed Mahommedan population of Trang. As the methods employed are most complicated, and probably less degenerate, in the more northerly states, I will first describe them as they exist in Patalung. In this state two types

of 'tree-burial' are recognized, the one permanent, the other only temporary; the latter being followed in the case of persons who are regarded as having died a normal death. In this case (Fig. 5) the body, after being washed, is placed on an inclined platform, the head being lower than the feet, within a

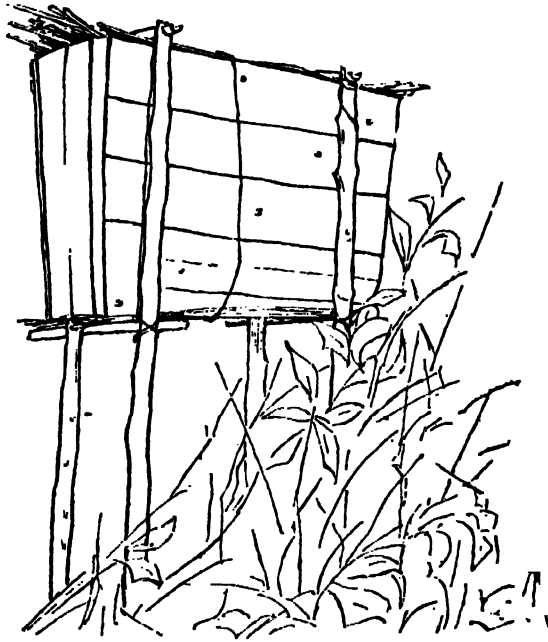


FIG. 5. Temporary Aërial Coffin. Patalung.

rectangular wooden chest, which is raised on poles some ten or twelve feet above the ground, either immediately behind the village temple or somewhere else in its vicinity. Properly the head should be directed towards Aiyuthia, the old capital of Siam; but this rule is frequently neglected. It is left in the chest for some months, until a lucky day occurs and the relations have sufficient money to pay for the subsequent ceremony and the feast that accompanies it. Should white ants eat the poles or the chest before this date, the bones are collected in a rice-bag of plaited *Pandanus*-leaf and placed either behind the altar in the temple, or in little huts erected within sacred ground outside. Finally, what remains of the body is cremated, and the ashes, in glass or stone bottles or earthenware cooking-pots, are either deposited in the temple or else are kept at home, in the latter case being frequently preserved in urns of carved wood elaborately gilded and decorated with pendant spangles and pieces of looking-glass, or, sometimes, in vases of ancient Siamese earthenware.

The other type of 'tree-burial' (Fig. 6) more properly deserves the name. In Patalung it is generally reserved for those who have died a bad

death, but in the Patani States we were told that the bodies of people who had 'died well' were frequently disposed of in this way. The corpse is rolled up in a mat and then in a casing of split bamboos, so as to form a cigar-shaped

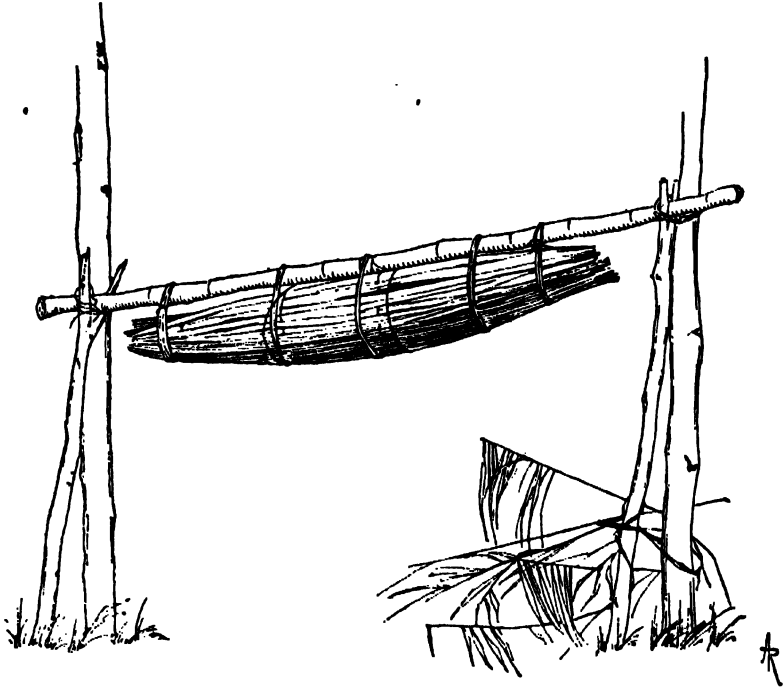


FIG. 6. Permanent 'Tree-burial.' Patalung.

(The corpse is usually rather higher above the ground than it is represented).

bundle, which is suspended between two trees in a waste place or hung up in the fork between two branches. Poles stuck upright in the ground take the place of the trees, if there are no trees of a convenient size. Properly speaking, the head should be towards the East (*i.e.*, the direction of Aiyuthia) and the feet towards the West; but this rule is not more strictly observed than in the preceding type. In Patalung a body thus suspended is permitted to decay without further ceremony, but we have seen a case at Nawngchik in which the bones, after their casing had rotted, had been collected into a kerosene-oil tin, which had been replaced in the tree whence they had fallen. We were told that both in this state and in Jalor the monks collected all the skeletons they could find every few years and cremated them. The bodies of children are frequently buried, at any rate in Patalung, beneath the trees in which those of older persons are suspended, but they are sometimes treated in the same way as those of their elders. No distinction appears to be made as regards

sex. We found in at least one instance that the skull had been removed from a body hung up in a tree, probably for some magical purpose, as a Malay told us at Jalor that he had once been employed by a Chinaman to collect human skulls for making medicine.

SOCIOLOGY

Practically every man in the Patani States is either a rice-cultivator or a fisherman, or else combines the two trades; but the Siamese, at rate where there are Malays, confine themselves to agriculture, leaving all seamanship to their neighbours. Fishing and rice-planting only occupy a part of each year, and many of the Malays of this district cross over to the other side of the Peninsula during the stormy season (in our own winter months), either to take part in the fishing off the coast of Kedah or drive cattle and buffaloes over into Perak for sale. Others occupy their spare time as blacksmiths, cattle-breeders, medicine-men or public entertainers. The elephant mahouts (*gambala gajah*) form a very distinct class, which is often, though not necessarily, hereditary; they are incorporated in a kind of a guild under a chief, who is known as 'Toh 'Ku Chang, *chang* being Siamese for elephant. There is a 'Ku Chang in each state in which many elephants are kept. Petty trading, salting fish, dyeing, weaving, cooking and bringing up water from the stream or well are women's occupations, and women also take part in reaping the rice and in transplanting the young plants from the nurseries in which it is sown to the flooded fields in which it reaches maturity, the men doing all the harder work, such as sowing, ploughing and harrowing. Occasionally, women also take part in the fishing, and a few men become expert weavers.

Three professions are considered disgraceful:—(1) That of the actor or other public entertainer, 'because he is not ashamed' (*sebab dia ti'da malu*); (2) That of the policeman (*orang mata-mata*, the man who is all eyes), 'because he does not recognize his mother or his father' (*sebab dia ti'da kenal ma atau bapa dia*); and (3) That of the sailor (*orang k'lasi*), that is to say the man who hires himself out to go long voyages, 'because he curses his own body' (*sebab dia sumpab badang sendiri*), having but one chance in three of returning home alive. It is curious to find such an estimate of the sailor's profession among any branch of a stock so essentially maritime as the Malays, but there exists an old man's saw in Patani to the effect that a man should beg from five houses before he becomes a sailor.

There is, properly speaking, no servile class among the Malayo-Siamese, the only form of slavery now extant in any considerable degree being a very

mild debt slavery, to which even persons of the raja class frequently submit, finding it less irksome than an independent existence. Formerly, if a person owed two dollars which he could not pay, he was obliged to work for his creditor until he could so, and if he died insolvent, the obligation was distributed in equal shares between his children of both sexes. We heard that the Siamese were trying to abolish this system, but their methods of so doing were not explained, and in any case it appears to do little harm beyond encouraging improvidence; for strict laws, and, what is more important, a consistent public opinion, regulate the relationship between masters and servants, who, besides being fed and clothed, are generally provided with tobacco and the like. Immoral relations between a master and a female slave, at any rate among the Malays, are heavily punished, unless it can be proved that she has consented freely.

The Siamese recognize no hereditary nobility among themselves, except in the blood royal, which does not exist in Lower Siam; but the Patani Malays have four titles which descend in the male line. The highest is that of *raja*, which is correctly applied to all persons of both sexes who can claim an unbroken descent on both sides from the mythical founder of the Malay race, but which, owing to Siamese influence, has now a very much more general use. It is even granted to certain persons by the King of Siam, but the Malays hardly recognize the validity of such creations. Persons whose fathers belong to the raja class but whose mothers do not, and their descendants, are called *ni*. The next title is that of *wan*, which is said to have its origin in an ancient salutation given to persons met within a house; while *inche*, frequently abbreviated to *'che*, the lowest hereditary title, is believed to have been the ancient greeting given to persons met on the road. Though properly a hereditary title, however, this last appellation is frequently bestowed by popular consent on persons of respectability who have no legitimate claim to it. *Datoh*, grandfather or lord, is a term of respect given to all persons of any age who hold official positions among the Malays, while *tuau*, master, is the correct way of addressing European men—white women are called *mem*—Mecca pilgrims, or *baji*, of both sexes and the wives of high Siamese officials, the officials themselves generally preferring to be called *Tuanku*, Your Highness!

The customs of fosterage and adoption are very common among the Patani Malays, well-to-do people very frequently giving their children to be brought up by poorer neighbours, with whose children they live as equals. Friends often exchange children, childless people adopt those of those who have many, divorced women and widows bring the offspring of former marriages

into the family, and as all of these are reckoned as the children of its head, it is often difficult to discover whether a child is his own or merely a 'taken child' (*anak angkat*) or a step-child (*anak tiri*). Nevertheless, Malays are jealous of their birth, and some kind of record is generally kept. The laws of inheritance we did not investigate; they are said to be based on the universal Mahommedan code, and the *kadi* or *kali* of each state is recognized by the Siamese Government as the judge in disputes about such matters among Mahommedans.

The rudiments of a system comparable to that of the village-houses in some parts of Borneo exist at Sai Kau, where we found that frequently the children of the head of the family, and even those of his dependents, took up their abode when they married and had children of their own in annexes to the paternal home. These annexes were often built in an irregular way, in order to avoid interfering with fruit trees that chanced to be growing round the original house; but in one or two instances the composite buildings had evidently been rebuilt, having a regular verandah extending along in front common to all the families which inhabited them.

It would be out of place in the present paper to deal with the system of administration recently introduced into the Patani States, seeing that the Siamese have based it entirely on modern Dutch and British models, as far as its major issues are concerned; but a few words on the local government may be of interest, as it appears to be at least partially a native growth: the particulars given refer more particularly to the district of Jarum, in Hulu Rhaman, but though details may be different in other districts, the principles of the system are the same throughout the Patani States. About every ten households are under a headman, who is called *nai-ban*, that is, 'in Siamese, 'master of the village'; he is usually chosen from among the householders in his district because of his ability to write either Malay or Siamese, and his election is in the hands of either the Siamese commissioner or the nearest resident magistrate (*bakim*), who is generally a Siamese but may be an educated Malay. Over every ten *nai-ban*, approximately, a *kem-nan* is appointed in the same way, being always a peasant of substance. The *nai-ban* and the *kem-nan* have to keep a record of all the people resident or travelling in their district, of all cattle and elephants, and of all weapons other than the *kris*, which is considered too obsolete to be of any account as a weapon. Formerly, and, as a matter of practice in the remoter districts at the present day, the regulation of forced labour was in the hands of these headmen, who received no pay for their services. Forced labour, however, has been abolished, to a great extent, by the Siamese, direct taxation having taken its place in most districts. In the old days

every man was bound to put in two months' work in the year on behalf of the raja of the state, and it was the *nai-ban's* and the *kem-nan's* business to see that he did so. He could not be forced, however, to work beyond the limits of the district in which he was resident, and was only obliged to work for a short period at a time. The period was regulated by a fixed measure of rice, which he had to bring with him and which was supposed to last for about ten days. When the rice was finished he went to his *nai-ban*, who, if satisfied that it had not been eaten too fast, gave him leave to return home. Bachelors and foreigners not married to native women were exempt from all such impositions. Native householders have the right to clear as much jungle as they can keep in cultivation, the cultivated land descending to their widows and children, on condition of obtaining leave from their *kem-nan* and of paying a fixed proportion of the produce (differing in different districts, but as high as ten per cent. at Sai Kau) to the raja, that is to say, practically, to the Siamese Government. Foreigners who have not taken a native wife pay nothing on the land they have cleared, and for this reason a small number of Bugis men and Malays from other parts of the Peninsula are still attracted to the Patani States.

CONCLUSIONS

It is obvious that the majority of the customs recorded in this paper have been deeply tinged by Mahommedan, that is to say Arabian, culture, but traces still remain, amidst much comparatively modern, of beliefs which may be regarded as having an extreme antiquity. Such we may consider the induction of sympathy between the life of a child and that of a tree by burying the after-birth at its roots. What is probably a similar practice, with regard to the same tree, prevails among the Baganda of Central Africa. The disgust evinced by Jalor Malays when triplets are born, and, especially, the phrase in which this disgust is expressed, are equally suggestive, and the diffidence felt in the presence of a mother-in-law is a wide-spread feeling among primitive races.

The question whether similarities of belief, feeling or ritual of the kind just indicated point to a date when all mankind was a single tribe—a theory opposed by grave anatomical difficulties, such as the difference in the mode in which an upright carriage is maintained in European races and in some others—or whether, on the other hand, they do not rather indicate a logical identity in the human 'species'—a convenient word, which may be either singular or plural—is too wide for discussion in the present strictly local contribution to ethnography, but it seems almost impossible to waive aside

such similarities in detail as mere coincidences, even if we grant the existence of a general similarity in the conception of ideas to all savages. Surely some more intimate connexion, whether of descent (perhaps even before mankind was man) or social intercourse, is necessary.

Of ancient systems, if not so ancient, relics of matriarchy, still prevalent among several primitive tribes of the Malay Archipelago, may be sought in the ceremonial return of the bride and bridegroom to her parents' home, in the independent state of women, and, possibly, in the fact that royal rank cannot be transmitted in the male line only—a theory of descent certainly not Mahommedan, though occurring among Iranian peoples. As regards circumcision, its association with the idea of fitness for marriage becomes the more interesting when it is considered together with the greater importance of the former rite in the districts where Mahommedanism has gained the slighter hold. Have we here evidence of the origin of circumcision among the Malays independently of Mahommedan influence? Perhaps the curious custom prevalent among the Japanese, believed by Adachi¹ to be a survival of what once was circumcision, may have its bearing on this question, which must remain for the present *sub judice*. There are many other points of interest in the customs of the Malayo-Siamese, such as the restrictions put on young men married for the first time and the prohibition against a bridegroom wearing silk or gold, which might be dealt with at length; but space forbids, and now that these customs are put on record, others more learned than myself can see their bearing on ethnology and the history of mankind.

My thanks are due, as regards the present paper, to Dr. A. S. CUMMING, who has gone through the manuscript. The illustrations are reproductions of careful drawings from photographs taken by myself during the SKEAT Expedition. Their object is, in the case of the Malay tombstones, merely to put on record certain forms which might well be discussed at some length.

SKELETONS OF THE MALAYO-SIAMESE

BY

NELSON ANNANDALE, B.A.

CONTRIBUTIONS TO THE PHYSICAL ANTHRO- POLOGY OF THE MALAY PENINSULA

SECTION II.—OBSERVATIONS ON THE SKELETON

PART III. MALAYO-SIAMESE

By NELSON ANNANDALE, B.A.

THE specimens described under this heading were obtained by Mr. ROBINSON and myself in the states of Jhering, Patani and Nawngchik.

They comprise two Malay skulls (one of which is accompanied by an imperfect skeleton) and a jaw bone of the same race; five adult Siamese skulls, with long bones and pelves, a Siamese lower jaw and imperfect skeleton, and two immature skulls, one of them that of an infant and the other that of a youth, the former being in a fragmentary condition but having a few of the limb bones associated with it. There is also the skull of a Siamese child about eleven years old, which was obtained by myself in the state of Patalung: it has with it an incomplete set of limb bones.

(A) MALAY SKULLS

Of the two complete Malay skulls in our collection one, which is accompanied by an incomplete skeleton, was obtained at Jambu, Jhering, in the waste ground where the bodies of persons who have died a violent death are hastily interred. The lower jaw, representing a second skull, is from the same locality. Both the individuals represented were said to have been natives of Jhering, the skeleton being that of a man who had recently been murdered by his wife's lover, while the lower jaw was all that remained of the body of a second murdered Malay, which had been washed out of the sand and carried away in a flood; a friend had rescued this one bone and had hung it up upon the branch of a small tree, where we found it. The other Malay skull was obtained on the outskirts of the town of Patani, and was reported to be that of a Kelantan Malay whom the ex-raja of Patani had murdered¹ some years previously.

1. It is very much easier to obtain the remains of those who 'have died of being killed' in the Patani States than of those who have died naturally.

The two skulls present great differences, and I have thought it best to describe them separately, although it is quite possible, indeed probable, that their diversity is not due to a difference in geographical origin ; for it is evident that they are extreme examples of two different types of head which we know to occur together in the Patani States.

Skull No. 21, Jambu Malay.

Though the skull is fairly heavy, its smooth outlines, the prominence of its frontal eminences and its vertical forehead give it a somewhat feminine aspect, with which its low cubic capacity (1,330 c.cm.) agrees ; but the structure of the rest of the skeleton and its history prove it male. Synostosis has commenced in the coronal sutures in both tables of the bone and also at several other points, indicating that the individual had past his first youth, and I do not think that the absence of any external trace of the third molars in the lower jaw and on the left side of the upper jaw can, in this case, be taken as indicative of youth.

The lower jaw from the same locality also appears, judging from its size and from the muscular impressions, to have belonged to an adult male.

Norma verticalis.

The skull, in this aspect, approaches the square in outline, but is very asymmetrical, the whole of the left side of the cranial box and also, to a lesser extent, of the face having been pushed forward in front of the right half. The skull is cryptozygous, although it closely approaches the phaenozygous condition. Though it does not exhibit numerical prognathism as defined by FLOWER, the protrusion of the mandible beyond the line of the face is very conspicuous from above ; but, as Sir WILLIAM TURNER¹ has recently pointed out, in skulls in which the nasion is much depressed below the level of the forehead, as is the case in this specimen, FLOWER's gnathic, or 'alveolar,' index does not give an altogether true indication of the degree to which prognathism is present. The cranial vault is flat, and shows no tendency to be roof-shaped. The parietal longitudinal arc is considerably longer than either the frontal or the occipital. The side walls of the cranium are almost vertical, and only a very small proportion of the post-parietal slope is visible from above. The frontal region is well developed, and there is no marked protrusion of the parietal on either side. There is little indication of the longitudinal post-parietal depression so common in the crania of the wild tribes of the Malay Peninsula, but a band-shaped depression, more noticeable on the left side than on the right, runs across the skull behind the coronal suture. The cephalic index is 85.9 ; decidedly brachycephalic.

1. *Trans. Roy. Soc. Edinburgh*, vol. XL, pt. 3, p. 602, 1903.

Norma lateralis.

The most remarkable feature of the skull in this view is its abrupt posterior termination. The post-parietal slope commences about midway between the bregma and the lambda and is gradual from its anterior commencement as far as the obelion ; from the level of the parietal foramina as far as the inion it is almost a vertical straight line. The plane of the nuchal part of the occipital bone also approaches the vertical, forming a very wide angle with that of the squama. The squama itself is quite flat, the external protuberance has a splayed or flattened appearance, and the cerebellar part of the occiput is relatively of small extent, exhibiting no outward convexity. The longitudinal arc of the cranium is moderately flat above ; the nasion is considerably depressed ; the nasal bones are not very prominent (though far from being so flat as in the case of several of the skulls described in a former part of this paper), and there is a marked prognathism (though the gnathic index does not quite reach 103), associated with a low angle of the entire face and not altogether subnasal. The zygomata are moderately stout, but the mastoid is very feebly developed. The skull rests behind on the posterior border of the foramen magnum, but the condyles very nearly touch the surface. The height of the cranium is slightly less than the breadth, the vertical index being 85·2 ; the height index obtained from Sir WILLIAM TURNER's formula,

$$\frac{\text{Basi-bregmatic height} \times 100}{\text{Parieto-squamosal breadth}} \text{ is } 99\cdot3.$$

Norma facialis.

As already indicated, the forehead is high and vertical and the glabella and supraorbital ridges are feebly developed. The orbits are microseme, the orbital index being 81·1. The nasal bones are long and rather narrow ; the nasal cavity is cordiform, being divided from the mandible below by a well-defined ridge, as in the higher types of human crania. The nasal index is only 45·8, that is to say, leptorhine. The complete facial index is 83·8, and the maxillo-facial index 50·7, so that, taking KOLLMAN's definitions, the skull is chamaeoprosopic considered as a whole but leptoprosopic if the lower jaw be left out of account, the body of this bone being rather slight and the teeth of no great vertical length.

Norma occipitalis.

The outline of the skull is pentagonal from behind. The surface seen in this view is nearly flat and the opisthion is almost within the plane of vision, the foramen magnum, which is of medium size, being directed almost vertically

downwards. The condition of the nuchal part of the occipital bone, considered in connexion with the flatness of the whole occipital region and the asymmetry of the skull, goes far to prove that the cranium has been subjected to artificial treatment, and, seeing that we know that such treatment is common among the Malayo-Siamese in the case of unusually *long* heads, doubts may be expressed whether even this very short skull would have been brachycephalic, had it been permitted to develop normally.

Jaws and Teeth.

The palate is tongue-shaped and long in comparison with its breadth, the palato-maxillary index being 105.3.

Although the body of the lower maxilla is slight and the elevation of the ascending ramus low, the latter region has a considerable area, its lower border being depressed below the level of the base of the body. The sigmoid notch is shallow, the mental prominence is less strongly developed than in the majority of male European skulls, and the mental spines are little more than small roughened areas.

The condition of the teeth in this skull is interesting in connexion with the question of the age at which the wisdom teeth are developed and their comparative morphology in the different races of mankind. The crowns of the two anterior molars are very large in both jaws, but the only one of the four third molars which is visible, that on the right side of the upper jaw, is not only very small and simple but is pushed to one side of the dentary arcade. It appears that the length of the crowns of the other teeth, combined with the shortness of the dentary arc, has made it impossible for the last tooth that is developed to develop normally, for the posterior border of the crown of the second molar is practically at the extremity of the alveolar border. The skull has reached a stage of equilibrium, as indicated by the closing sutures, that would have prevented any great increase in the size, or change in the shape, of the bones. I have reason to believe that this is a common condition in the skulls of Mongoloid, or partially Mongoloid, races, but must defer a full discussion of the question until another occasion.

The separate lower jaw from Jambu is too much worn and broken to permit accurate measurement. It appears to have been larger than that of the above specimen, and to have had normally developed third molars on both sides; the crown of the only molar that remains, the second on the right side, is comparatively small. The mental prominence is feebly developed, but the elevation of the ascending ramus appears to have been rather greater than in No. 21.

Skull No. 22, Kelantan Malay.

This skull has well-defined male characteristics, the bony ridges being strongly developed, the forehead comparatively low, and the contours generally massive. The development of the bones points to middle age, but synostosis of the sutures is not visible at any point upon the outer table. The third molar is fully formed on both sides of both jaws.

Norma verticalis.

The outline in this aspect is ovoid, somewhat flattened at the posterior extremity. The skull is conspicuously phaenozygous, and only a small proportion of the mandible can be seen from above. The abruptness with which the supraorbital ridges jut out from the base of the forehead and the narrowness of the latter are very marked. The post-parietal slope is visible from above as far down as the lambda. The side walls of the cranium are not so vertical as in No. 21, and the cranial vault shows a tendency to be roof-shaped. There are no marked local depressions on the bone. The occipital longitudinal arc is slightly longer than either the frontal or the parietal, the two latter being approximately equal. The cephalic index is 79, in the upper limits of mesaticephaly.

Norma lateralis.

The post-parietal slope commences at a point about two-thirds the distance from the bregma to the lambda. As far as the lambda it is not excessively abrupt; from this point to the inion it is vertical but slightly arched; the angle formed by the plane of the occipital squama with that of the nuchal plate, though very considerable, is not so wide as in No. 21. The longitudinal arc of the skull is flat above, the forehead is low and retreating, strongly marked off from the supraorbital ridges. The nasion is not much depressed; the nasal bones are moderately prominent, and though the angle of the face is low as a whole, the degree of subnasal prognathism is slight. The zygomata are stout, but the mastoid, though massive and strongly grooved, is short. The skull rests behind on the posterior border of the foramen magnum, which is large (37 mm. by 33 mm.), but the plane of the foramen approaching the horizontal at least as closely as in No. 21. The cranium is broader than it is high, the vertical index being 75.5, and the height index, calculated by the same formula as in the case of No. 21, is 95.7.

Norma facialis.

The orbits are large and rectangular; they are mesoseme, the index being 85. The nasal bones are somewhat irregular in shape, and their inferior

extremities form a well-marked process ; they are of medium prominence. The floor of the nasal cavity is separated from the mandible by distinct pre-nasal fossae, the form of which is not quite that of the extreme Negroid' type, as they are somewhat more shallow. The prominence of the nasal spine is slight, but the nasal index is leptorhine, being only 46·2. The canine fossae are very deeply depressed. The face is not so flat as in the preceding specimen, but it also is chamacoprosopic if the complete facial index (85·7) be considered, and leptoprosopic considering the maxillo-facial index of 53·4.

Norma occipitalis.

The outline from behind is pentagonal. The surface seen in this aspect is slightly arched, though approximating to the flat, and the plane of the nuchal plate slopes inwards gradually, so that the whole of its length is well within the plain of vision ; but it forms a smaller angle with the squama than in No. 21. It is impossible to say that the skull has been artificially deformed, the condition of the occipital region differing in no important respect from that common in normal brachycephalic skulls.

Jaws and Teeth.

The palate is still dolichuranic, though somewhat broader than in No. 21, its index being 108·8. The internal nares are directed backwards and downwards at a more acute angle than is common.

The conditions of the lower jaw resemble those in the preceding specimen, but the bone is stouter and the elevation of the ascending ramus rather higher ; the mental spines are more strongly developed.

The crowns of the anterior molars and premolars are smaller than in No. 21, permitting, although the dentary arc is rather shorter, full development to the third molar in both jaws. Indeed, this tooth is unusually well developed, its crown being very little smaller than that of the second molar ; on both sides of the upper jaw it has three distinct fangs, each fitting into a separate locus.

The skull is mesocephalic, its index being 1,390 c.cm.

The following is a brief summary of the resemblances and differences exhibited *inter se* by the two Malay skulls, omitting such differences as appear to be due to artificial distortion of the cranium :—Both have narrow faces if the lower jaw be left out of account, and in both the addition of this factor makes the face appear broader ; both are leptorhine ; both have long narrow palates ; in both the plane of the foramen magnum is nearly horizontal. On the other hand, in No. 21 the bony ridges are feeble, the forehead vertical, the

nose divided from the palate by a definite ridge ; while No. 22 presents the opposite conditions, exhibits a very much slighter degree of prognathism and a different condition of the teeth.

(B) SIAMESE SKULLS

The Siamese skulls in the collection were procured, with the exception of one specimen (which will be dealt with separately), from the state of Nawngchik, two of them having been obtained at the village of Ban Sai Kau and the remainder in the environs of the town of Nawngchik or Tojan. The Sai Kau specimens are male and female, the former being the skull of a man who had been murdered by a jealous husband, while the woman had died of 'fever' believed to be of artificial origin.

The Nawngchik specimens were obtained from the branches of trees in which they had been suspended ; we are not acquainted with their individual histories, but it is probable that they represent the victims of an epidemic of smallpox. 'Tree-burial' is characteristic of the indigenous Siamese, as distinct from the Malays on the one hand and from the Bangkok officials and from Chinamen on the other, throughout the Patani States. The skulls from Sai Kau belong to a different type from those collected at Nawngchik, but, seeing that the two places are only a few miles apart, no great stress must be laid upon the fact, except in so far that it goes to prove the population of the state, even within the limits of one so-called race, to be a very mixed one. As before, when dealing with the Malay specimens, I will describe the two types separately.

Skulls No. 23 and 24, Nawngchik Siamese, Ban Sai Kau.

The sexual characters are well marked in the two skulls, the male specimen being altogether more massive than the female, and having a cubic capacity almost exactly one-tenth greater. Both skulls are those of fully adult persons, the condition of the sutures showing that early youth was past in both cases. Probably the male was rather older than the female. Both are more massive than any specimen representing the other type from the same state.

Norma verticalis.

The outline of both skulls in this aspect is ovoid, the male specimen being very much broader than the female, and also more asymmetrical. In neither does any part of the parietal region bulge out suddenly at either side. Both skulls are phaenozygous, the male specimen more so than the female.

The mandible is not visible from above in either. The cranial vault is flattened, especially in No. 23. The parietal longitudinal arc is the longest of the three in No. 24, while the frontal is the longest in No. 23; in both cases the occipital arc is considerably shorter than either the frontal or the parietal. Only a very small proportion of the post-parietal slope is visible from above in the male specimen, but in the female skull a point some millimetres below the lambda is within the plane of vision. There are no marked local depressions upon the surface of either skull. The cephalic index of No. 23 is 87·2, that of No. 24, 78·7.

Norma lateralis.

The posterior termination of the cranium approaches the condition described in the Malay skull from Jambu (No. 21), but the abruptness of its slope is not quite so excessive; in the female specimen the slope is that of a normal sub-brachycephalic skull and the occipital squama is decidedly convex outwards; in both, the angle between the plane of the squama and that of the nuchal part of the bone is wide. The longitudinal arc of both crania is inclined to flatness above; the forehead is fairly vertical in the female specimen, low and retreating in the male. Though the supra-orbital ridges are well developed in the latter, they do not jut out from the base of the forehead, but emerge from it gradually. The nasion is not much depressed; the nasal bones are moderately prominent, being slightly recurved at their inferior extremity in the female skull. Prognathism is quite absent, the gnathic indices of the male and female skulls being respectively 95·2 and 94. The zygomata are stout and expanded, especially in the male skull; but the mastoids are only moderately strong. The skulls rest behind on the posterior border of the foramen magnum, which is very large in No. 23; but the plane of the foramen approximates to the horizontal. The left styloid process of No. 24 measures 26 mm.; the right, 19 mm. The height of the cranium is, in both cases, less than the breadth, and in the male skull the difference between the two measurements is very marked; the vertical indices are 78·4 and 77·5, and the height indices 90 and 98·5. Exactly how far this condition is correlated with what appears to be artificial distortion in the male cranium, it is impossible to say.

Norma facialis.

The orbits are mesoseme in No. 23 and microseme in No. 24, the two orbital indices being 87·8 and 80. The nasal aperture in No. 24 is cordiform, while in No. 23 it is rather longer and narrower; the floor of the nasal cavity

has an intermediate character in both, being separated from the mandible neither by a definite ridge nor by fossae, and not sloping outwards and downwards in any very definite manner; both specimens are platyrrhine, their nasal indices being 55·7 and 53·2; the nasal spine is very prominent in No. 23. The faces give the impression of being flatter than those of the two Malay skulls; the maxillo-facial index of No. 23 is 55, while that of No. 24, in which the alveolar point is slightly broken, is approximately 54; so that both specimens, taking this index, are leptoprosopic. The complete facial index of the male specimen, however, is, like that of the two Malays, chamaecoprosopic, being only 85·7.

Norma occipitalis.

Viewed from behind, both specimens are pentagonal in outline. The flatness apparent in No. 23 is probably due to artificial treatment during infancy, though the inward slope of the nuchal plate is approximately equal in the two skulls and there are no indications of such treatment in No. 24.

Jaws and Teeth.

The palates are very much broader and shorter than in the Malay skulls, the two palatal indices being both brachyuranic; they are 126·8 and 123·1. The condition of the body of the lower jaws is similar to that of the specimens described above; but in No. 23 the elevation of the ramus is considerable, while in No. 24 the angle which it makes with the body is so open as to be quite infantile.

In the male specimen the condition of the teeth approximates to that in the Malay skull from Jambu; in the upper jaw two third molars are present, but they are small and ill-developed, having each two fangs, which are only partially separated from one another; in the lower jaw the wisdom tooth is only visible to the right side and has there been so crowded that it has grown in sideways, the direction of its growth being midway between the vertical and the horizontal. In No. 24 the crowns of the anterior teeth are smaller, and the third molar has been allowed to develop on both sides of both jaws, being large and well formed in the lower jaw but, apparently, dwarfed and peg-like in the upper.

The male skull, No. 23, is megacephalic, its cubic capacity being 1,475 c.cm., while the female specimen is microcephalic, having a capacity of 1,325 c.cm.

These two skulls from Ban Sai Kau are typically Mongoloid in the majority of their characters, showing many resemblances to a series of Siamese

skulls from Bangkok with which I have compared them. Their differences from the Malay specimens from the Patani States may not be altogether fortuitous, though I believe that the latter are both extreme types, while the present specimens probably approximate more nearly to the mean allowances being made for the artificial treatment which one of them has probably undergone. Their differences *inter se* appear to be due partly to this artificial treatment, and partly to sex.

Nos. 25-30, Siamese, Nawngchik Town, Nawngchik.

Of the four perfect skulls from this locality three are female and adult, while the fourth is that of a person too young to admit of a diagnosis of sex; judging from the size of the cranium and the weight of the skull, I am inclined to regard it as male. Of the adult specimens No. 25, though fully adult, is evidently young; the bones are remarkably light and translucent, and the sutures are all open, but the junction between the basilar part of the occipital and the body of the sphenoid is quite obliterated. No. 26, judging from the condition of the lower jaw, represents an elderly person, while No. 27 is probably the skull of an individual in middle life. No. 29 has the second molar just appearing on both sides of the upper jaw. In all the bones are thin.

Norma verticalis.

In the four specimens the outline in this aspect is ovoid, somewhat truncated behind in No. 27. Nos. 25, 27, and 29 are phaenozygous, No. 26 cryptozygous; in No. 25 part of the mandible is visible from above, but it is completely concealed in the other skulls. The lambda cannot be seen in the norma verticalis except in No. 29, though it is very nearly within the plane of vision in the other specimens. The cranial vault is nearly flat in No. 27, and but feebly arched in Nos. 25, 26, and 29. In Nos. 26 and 29 the frontal longitudinal arc is the longest; in No. 27 the parietal; while the presence of Wormian bones in the lambda of No. 25 renders it impossible to separate the parietal from the occipital arc, but these two arcs taken together are considerably shorter than twice the frontal. The cephalic index in the three adult specimens only varies from 78.8 to 80, while that of the young specimen is also 80.

Norma lateralis.

The post-parietal and occipital slopes are those of normal sub-brachycephalic skulls, except in No. 27, in which it is strictly of a true brachycephalic nature. In all four specimens, and especially in Nos. 25 and 27, the occipital squama is markedly convex outwards, and in the three adult skulls the nuchal

part of the bone is relatively of large extent, and is so protuberant that great outward convexity of the cerebellar lobes is indicated; the condition recalls that in the Orang Laut skulls, described in a former part of this paper, and is made the more conspicuous by the fact that in both races a broad band-like depression runs transversely across the occiput, separating the two parts of the occipital bone. The angle formed by the plane of the squama and that of the nuchal plate is, especially in the young skull, far less wide than in the other Malayo-Siamese skulls described. The forehead is vertical in the four specimens, and the ridges in this region are feebly developed. The nasion is very little depressed, and the nasal bones are not prominent, being least so in the young skull. There is a slight subnasal prognathism in No. 25, in which the gnathic index is 100; Nos. 26 and 27 are practically orthognathous, their respective indices being 95 and 93.7. The young skull has a gnathic index of 101.1, chiefly due to a general protrusion of the face beyond the line of the forehead. The zygomata are moderately stout, but the mastoids are feebly developed, especially in No. 26, in which their condition is almost infantile. Their condition in the young skull is even more child-like than in most European specimens of the same age. In No. 25 the skull rests behind both on the posterior border of the foramen magnum and on the condyles, while in the remaining three specimens it rests only on the former point; but in all cases the plane of the foramen approaches the horizontal. Except in No. 25, the height of the cranium is less than the breadth; in No. 26 the vertical index is 77.6, and the height index 97.1; in No. 27 the vertical index is 78.3 and the height index 99.2; in No. 29 the two indices are respectively 76.4 and 95.5; while in No. 25 they are 79.4 and 100.7.

Norma facialis.

The orbital index of the four specimens is mesoseme, varying from 85.7 to 88.9 in the adult skulls. The nasal bones are rather wide in the female skulls, somewhat wider and flatter in the young specimen; in the former the nasal aperture is cordiform, narrower in No. 26 than in the other two; but in the young skull it is very short and approaches the square in shape. The nasal index of the adult skulls varies from platyrrhine to leptorrhine, being 56.8 in No. 25, 53.5 in No. 27, and 44.7 in No. 26; in No. 29 it is mesorrhine, 51.1. The condition of the nasal floor in the adult specimens resembles that in No. 23, while in the young specimen there is a definite outward and downward slope at the point of junction with the jaw. The maxillo-facial index of two of the adult specimens (Nos. 25 and 27) is chamaeoprosopic, being 54.5 in one

1. As in Hovorka's *Affenrinne* (i.e. p. 38, fig. 9d), rather than in his *Forma infantilis* (fig. 9c).

and 50 in the other ; in No. 26 it is leptoprosopic, being 46.3. The complete facial index of No. 25 is also chamaeprosopic, being 94.3.

Norma occipitalis.

The outline of the four skulls is in this view pentagonal. It is in the norma occipitalis that the difference between these specimens and the skulls from Sai Kau is most apparent, owing to the way in which the occipital squama bulges out and the nuchal plate, also bulging out but in a different curve, retreats gradually towards the foramen magnum.

Jaws and teeth.

The palate in No. 25 is of medium diameter, very highly arched above ; its index is 114.5 : in the other two adult specimens it is broad, their indices being 130 and 122.3. As might be expected, in the young it is very broad, having an index of 131.2.

Allowing for differences in age and sex, the four adult lower jaws from Nawngchik town are very similar to one another, and are of the same type as those described above.

In the adult specimens the teeth are smaller than those of No. 21. In No. 25 the third molar is moderately large on both sides of both jaws, its condition in the lower jaw showing that its appearance is quite recent, more so than in the upper jaw of the same specimen. A similar condition prevails in the male lower jaw, No. 28 ; but in No. 26 there is no trace of a third molar on either side of the upper jaw, and no room for one in the alveolar border : on the left side of the lower jaw a small, but well-formed, wisdom tooth exists on the right side. It is, however, so far back in the jaw that if the bone be viewed in profile most of it is concealed behind the ascending ramus. In this case the suppression of the latest in development of the teeth does not appear to be due to the growth of the preceding teeth, which are of no great size, so much as to the shortness of the dentary arc itself. This is the only specimen in the Malayo-Siamese series in which any teeth appear to have been lost during life, and in it only the first molar on the right side seems to have suffered.

In No. 27 the third molar has been developed on both sides of both jaws, being small in the upper jaw but of fair size in the lower.

Two of the adult female skulls from Nawngchik town are microcephalic, the cubic capacity of No. 27 being only 1,215 c.cm., and that of No. 26, 1,310 c.cm. ; the third specimen is mesocephalic, with a capacity of 1,360 c.cm.

Taking them as a whole, the Malayo-Siamese crania from the Patani

States appear to represent a population near the lower limits of brachycephaly, which is sometimes exaggerated by artificial deformation, not of an extreme character, practised on the heads of infants. The skulls are generally broader than they are high, the nasal index varies within wide limits; the face is moderately broad, but the lower jaw is small, though strong. Prognathism is occasionally present, often absent. It is a remarkable fact that in three skulls out of seven, which appear to have reached their permanent condition, the third molar is absent on one or both sides of one or both jaws, either because the other teeth have been so large, or because the arc of the alveolar border has been so short, that outward growth of the wisdom tooth has been interfered with, though it is very possible that a dissection of the bone might demonstrate that it has not been entirely suppressed.

It is very evident, I think, that though these skulls, with the possible exception of the Malay specimen from Patani, exhibit certain Mongoloid characters, they afford very strong evidence of the existence of a non-Mongoloid, primitive element in the settled population of the Patani States. The series is too small and the types are too varied within each 'race' for it to be possible to draw up any definite distinction between 'Malays' and 'Siamese,' but the whole of our work in this district goes to prove, as might be expected from its geographical position, that we are here dealing with an ethnical border-land, where the races of Siam and of Malaya have become utterly confounded, and where it is probable that earlier races have been almost entirely absorbed; while the history of Patani, in the seventeenth century the chief port of Siam and the adjacent countries, points to further admixture in the past with several alien Oriental races: nor must the fact be lost sight of, that, even at the present day, the introduction of alien concubines from Africa and Arabia has by no means altogether ceased.

(C) CHILDREN'S SKULLS

The juvenile characters in the two skulls described under this heading are so strongly marked that they mask the racial characters, as these are generally understood, and, therefore, it will be best to describe them separately, laying stress on those points in which they differ from the skulls of the adults of the same race. Both specimens were obtained in trees, the infant's at Nawngchik and the other at Lampam, the capital of the state of Patalung, and both probably represent the victims of smallpox. There is no reason to suspect any very great difference between the Siamese of Patalung and those of Nawngchik, though certain minor distinctions undoubtedly exist.

1. See Anderson, *English Intercourse with Siam in the Seventeenth Century*, pp. 42-44, etc.; London, 1890.

The Nawngchik specimen, judging from the condition of the teeth, represents an infant of less than two years old, the first molar (milk dentition) having not yet completely pierced the surface of the jaw. Unfortunately, the specimen is very imperfect, in a fragmentary condition; the bones have become separated from one another, some of them have disappeared, and they are so distorted, probably owing to the processes of decomposition, that it is impossible to fit them together again. Nevertheless, they show some interesting features.

In the first place, the occipital bone is very nearly vertical, and, undoubtedly, points to a very high degree of brachycephaly, while the parietals have evidently bulged out considerably on each side of the head almost at its posterior termination, arguing a wedge-shaped form in the *norma verticalis* and also pointing to brachycephaly. The floor of the nasal aperture, which hardly differs from that in the Siamese youth's skull from the same locality, is of the true infantile type. The degree of prognathism present and the height of the body of the lower jaw, in which the symphysis is almost complete, probably differ less from the conditions of the adult jaw of the same race than would be the case in Europeans.

The child's skull from Patalung appears to represent an individual of between eight and ten years old. The skull is fully ossified, with the exception of the occipital condyles and the junction between the basilar process of the occipital and the body of the sphenoid; the second molar is just commencing to appear, but has not yet completely made its way through the bone to the surface.

In the *norma verticalis* the skull has a very characteristic wedge-like form, very different from that of the adult Siamese skulls, but probably resembling that of the infant from Nawngchik; the outline is practically a broad-based isosceles triangle, truncated at the apex in the front, and the cephalic index is very high, 89·7, considerably higher than that of any other specimen in the whole of our collection, though there is no trace of artificial distortion. The parietal eminences are strongly developed, as might be expected, and the post-parietal slope is abrupt. The occipital squama is convex outwards, but its arc has a long radius; the nuchal plate is bent on itself at an angle approaching a right angle, and more than half of its length ascends above the point at which the skull commences to slope inwards towards the foramen magnum, the plane of which is less horizontal than the adult skulls. The mastoids are very little more feeble than in an adult female skull, No. 26. The nose is extremely flat, the alae are broadly expanded, and the floor of the cavity has the ape-like outward and downward slope, noted in the youth's skull from

Nawngchik, even more distinctly marked. The orbits resemble those of adult skulls. The angle of the ascending ramus of the lower jaw is practically the same as that persisting in an adult female skull, No. 27, and the symphysial height is no less than in the jaw of No. 24, an adult female too young to have been affected by senile atrophy.

On the whole, the inference to be drawn from these two children's skulls is that, while in certain characters, notably in the lower jaw, they depart less widely from the adult type of their race than would be the case among Europeans, they are distinguished from the skulls of older persons of their race in certain very definite ways, chiefly in displaying a very much more marked tendency to brachycephaly.

In the Patalung specimen the parietal longitudinal arc is proportionately very much longer than either the frontal or the occipital than in any other complete skull in the collection, and though in the fragmentary specimen from Nawngchik the necessary measurements cannot be taken, there are indications that the same state of affairs prevailed in this younger skull also; in the youth's skull (No. 29), however, the frontal arc is very much the longest of the three.

	Cephalic Index	Vertical Index	Gnathic Index	Facial Index	Nasal Index	Orbital Index	Bigonial Index	Cubic capacity
Jungle tribes ..	74.6 (XI)	78.8 (X)	98.8 ap. (VII)	47.1 (VII)	55.1 (IX)	85.6 (IX)	74.6 (IV)	Males, 1,338 (III); Females, 1,228 (V)
Orang Laut ..	77.0 (VIII)	76.0 (II)	96.0 (one)	..	52.0 (III)	75.2 (V)	..	Male, 1,440 (one); Female, 1,170 (one)
Malayo-Siamese	81.1 (VII)	78.8 (VII)	96.7 (VII)	51.6 (VI)	50.7 (VIII)	85.0 (VII)	75.4 (VII)	Males, 1,398 (III); Females, 1,302 (IV)

In a future Fasciculus I hope to discuss the racial features of our collection of skulls and skeletons from the Malay Peninsula, but the above table shows roughly some of the principal differences between the adult crania of the different races investigated, as far as the condition of the material and the limitations of the present systems of craniometry will permit. The Arabic numerals give the mean, while the Roman figures following them in brackets indicate the number of skulls from which that mean was calculated. The facial index noted is, of course, the maxillo-facial. I have been obliged to group the Semangs, the 'Sakais' (or, more correctly, the bastard Semangs) of Upper Perak, and the true Sakais of South Perak together as 'jungle tribes,' for our series of skulls is too small for it to be possible to draw any distinction between them, and it is obvious, I think, that far less difference exists between the bony structures of these tribes than the appearance of living individuals would

suggest. The Semangs have, to some extent, the features, the hair, and the stature of Negritos, but their skulls show decided relationships to those of the dolichocephalic Indonesians; while the Sakais are so mixed a race that their true affinities must be discussed at length to be elucidated.

(D) MALAYO-SIAMESE SKELETONS

It will not be necessary to describe the skeletons in such detail as the skulls, and the tables of measurements indicate with sufficient clearness which bones have been preserved in the case of each individual, the collection numbers referring to the same individuals as in the description of the skulls.

Upper Limb.

In five of the six adults in which the upper limb is represented, the scapulae and clavicles are remarkably small and light, but in the male skeleton from Sai Kau they reach moderate dimensions. In every case the supra-scapular notch is fairly deep, and in No. 23 its narrowness gives it a pronounced character. The axillary border of the scapula is nearly straight, and the mean scapular index is distinctly lower than that of the jungle tribes, as may be seen by reference to the comparative table of indices at the end of the present part of this paper. There is an intercondylar foramen in both humeri of No. 26 and in the left humerus of No. 23. The mean radio-humeral index is approximately the same as in the case of the four Semang and Sakai specimens, but it would very possibly have been somewhat higher in the latter, had it not been for the inclusion of one individual in whom this index was apparently abnormal.

Lower Limb.

The lower limb, and especially the tibia, exhibits in almost every particular those modifications associated with the squatting attitude by Professors A. THOMSON¹ and HAVELOCK CHARLES.² Apart from these, the pilastered condition of the femur is present in a more or less pronounced degree in each of the seven adult skeletons in which the bone is represented, while in the child's femur from Lampam (No. 31) there are indications that it would have been strongly developed in adult life; in the infant's skeleton (No. 30) there is no trace of it. It is most pronounced in a female (No. 24), being feeble in a Malay male (No. 21) and a Siamese female (No. 26). Platymery is fairly well marked in Nos. 26 and 27, distinctly less so in Nos. 23 and 24, and barely indicated in the other specimens, including the two children. I have not given the measurements that are believed by many anthropologists

1. *Journ. Anat. and Phys.*, vol. XXIII, pp. 616-639, 1889.
2. *Ibid.*, vol. XXVIII, pp. 1-18, 272-280, 1893.

to indicate the degree to which these two peculiarities of the femur are developed, because I find that the measurements often depend on the relative breadth and depth of the main body of the shaft, irrespective of any local ridge or flattening. In the upper extremity of the bone, the extensor area of the neck is not strongly marked in any specimen; a third trochanter is present in Nos. 23, 24, and 27, and the anterior intertrochanteric line, while strong in Nos. 23 and 24, and fairly strong in Nos. 26, 27 and 28, is feeble, except in the upper third of its length, in Nos. 21 and 25.

The tibiae of the seven adults show a fine gradation from well-marked platycnemy to almost the opposite condition, for in Nos. 23 and 24 the shaft of this bone is definitely sabre-shaped in the anterior view, though there is no great lateral compression on the posterior surface; while in the other individuals this character is less and less marked, until in No. 26 it is practically absent; the measurements and indices are given in the general table. In the young skeleton from Lampam the cross-section of the tibia more closely approaches the circular than in that of any adult specimen in our series, but owing to the action of the weather on the surface of the bone exact measurements cannot be given; the retroversion of the head of this bone, though patent, is not so strongly marked as in the adults, in which it is very pronounced.

Pelvis.

There are three adult male and four adult female pelves in our series. With the exception of two specimens (Nos. 23 and 24), which only reach moderate dimensions, they are extremely small and compact, barely equalling those of the jungle tribes in size. This fact, taken in connexion with the shortness of the limb bones in all the skeletons but those of these same two individuals, would seem to indicate that the remaining five persons represented in the collection were below the average stature of the Malayo-Siamese, as one of the most noticeable differences of figure between this race and the jungle tribes is the superior breadth of the hips in the former and the extent to which the upper part of the body is developed, relatively to the hips, in the latter.

Considering first the three male pelves, the most remarkable features they present are the straightness of the sacra and the great variation in the shape of the brim, and consequently in the pelvic or brim index. A Malay specimen (No. 21) and a Siamese specimen from Sai Kau (No. 23) agree in being dolichopellic, while No. 28 from Nawngchik town is very highly platypellic indeed, its index being well below 70. The breadth-height index, however, only varies from 76.2 to 80.9, with a moderately high mean of 78.7.

The sacral index, both measurements being taken with the callipers, has a mean of 98, the extremes being 96.1 and 100, while if the length is measured along the curve with a tape, the variation is practically the same, the extremes being 90.0 and 94.2, and the mean is 92.3.

The mean of the four female pelvises is just mesatipellic, being 90.7, while the extremes run neither so high nor so low as in the other sex, being 85.9 and 94.7. The mean breadth-height index is also lower than in the case of the male specimens; for it is only 75.4, while the extremes are 68.7 and 79.4. The former index belongs to the female specimen from Ban Sai Kau, which corresponds in several particulars with the male pelvis from the same locality, especially in having the alae less vertical than the other specimens of the same sex. The sub-pubic angle in this female individual, however, does not resemble that of the male quite so closely as the measurement, taken with GARSON's goniometer, would seem to indicate, for its comparative lowness is due partly to a distinct inward recurvature of the inferior rami which prevents the true angle being registered, though in any case it would be low.

In one pelvis of each sex, namely in Nos. 28 and 25, there are only four vertebrae included in the sacrum, and only two take part in the articulation of the pelvis. This reduction in the number of the bones ankylosed together is not accompanied by any great reduction in the length of the sacrum, the individual vertebrae having become correspondingly long; it is due to the inclusion of the first sacral vertebra in the lumbar series, not to the separation of the fifth and its inclusion in the coccyx. The lateral masses appear to have been developed in each case in the vertebra which was morphologically the first of the sacral series, and to have articulated on both sides with the lateral masses of the bone which was, from the same point of view, the second of the series. Unfortunately, the lumbar vertebrae have not been preserved in either specimen.

In the pelvis of No. 27 there is considerable lateral asymmetry, the sacrum being twisted forward on the right side, and the rest of the pelvis having been distorted in a corresponding manner. The fifth sacral vertebra of this specimen has been broken after death, so that the sacral index cannot be given.

MEASUREMENTS AND INDICES OF THE PELVIS

Collection Number	21	23	28	24	25	26	27
Sex	♂	♂	♂	♀	♀	♀	♀
Breadth	227	257	233	262	236	231	214
Height	173	208	185	180	176	183	170
Between Ant. sup. Iliac Spines	203	240	204	230	202	206	174
Do. Post. Sup. Iliac Spines	73	74	58	97	84	105	74
Do. Ischial Tubera	118	150	114	142	134	142	143
Vertical Diameter of Obturator Foramen .	49	55	47	49	47	42	42
Transverse Diameter of Obturator Foramen	30	34	30	37	34	30	29
Subpubic Angle	60	74	61	76	80	101	97
Transverse Diameter of Brim	100	118	108	128	114	113	114
Conjugate Diameter of Brim	98	110	75	110	102	105	108
Intertuberal Diameter	70	100	73	99	91	109	114
Depth of Pubic Cavity	100	116	99	97	94	100	92
Length of Sacrum (direct)	102	108	100	94	80	100	..
Do. do. (along curve)	110	120	104	99	96	106	..
Breadth of Sacrum	98	108	98	103	100	106	..
INDICES							
Pelvic Index	98'0	95'2	69'4	85'9	89'4	92'9	94'7
Breadth-Height Index	76'2	80'9	78'9	68'7	74'5	79'2	79'4
Obturator Index	61'2	61'8	63'8	77'5	72'3	71'4	69'0
Sacral Index	96'1	100'0	98'0	109'5	96	106'0	..

Vertebral column.

The cervical vertebrae of Nos. 21, 23 and 24 have been preserved, and their spines are more markedly bifid than in the case of the Semang and Sakai specimens (Nos. 1, 3 and 9), in which this condition is feebly indicated but not altogether absent.

The lumbar vertebrae have been preserved—with the exception of the third in No. 21—in Nos. 21, 23, 24 and 26; in none of these four skeletons is the lamina of the fifth lumbar vertebra separated from the rest of the bone. The lumbar indices and the measurements on which they are based are given in the following table:—

HEIGHTS AND INDICES OF LUMBAR VERTEBRAE

	No. 21	No. 23	No. 24	No. 26
1st :—				
Anterior Height ...	22	26	20	22
Posterior Height ...	23	29	23	25
Index ...	104·5	111·5	115·0	113·6
2nd :—				
Anterior Height ...	23	26	23	22
Posterior Height ...	24	28	26	26
Index ...	104·3	107·4	113·0	118·2
3rd :—				
Anterior Height ...	...	26	23	23
Posterior Height ...	...	26	24	26
Index ...	...	100	104·3	113·0
4th :—				
Anterior Height ...	23	26	24	23
Posterior Height ...	21	26	22	24
Index ...	91·3	100	91·7	104·3
5th :—				
Anterior Height ...	27	26	24	22
Posterior Height ...	22	22	20	23
Index ...	81·4	84·6	83·3	91·8
Mean Lumbar Index ...	...	100·7	101·5	108·2

To show some of the differences in proportion which the measurements of the limb bones of the Malayo-Siamese series would seem to indicate from the corresponding measurements in the jungle tribes (though the number of individuals examined is in each case too small to allow dogmatic assertions), I have appended a comparative table, showing the means and extremes of the more important indices in each case :—

MEANS AND EXTREMES OF INDICES OF LIMB BONES

				Number of Skeletons	Mean	Extremes
Tibio-femoral Index						
Jungle Tribes	...	...		Four	81.0	77.6—85.8
Malayo-Siamese	...	...		Seven	80.8	78.2—84.0
Humero-femoral Index						
Jungle Tribes	...	...		Five	69.6	68.6—71.0
Malayo-Siamese	...	...		Six	71.9	70.3—73.7
Radio-humeral Index						
Jungle Tribes	...	...		Four	78.4	73.5—81.8
Malayo-Siamese	...	...		Six	78.7	76.1—81.8
Intermembral Index						
Jungle Tribes	...	...		Four	68.2	67.2—69.4
Malayo-Siamese	...	...		Six	70.4	69.6—72.1
Scapular Index						
Jungle Tribes	...	...		Four	71.5	70.4—72.9
Malayo-Siamese	...	...		Six	69.3	66.4—71.9

My thanks are due to Professor D. J. CUNNINGHAM, in whose department in the University of Edinburgh the greater part of the work of describing our Malayo-Siamese skulls and skeletons has been done, and who has kindly suggested to me several points of interest for discussion.

ERRATA IN PART I

Part I, p. 158, table ; for '**Pelvic Index**' read '**Breadth-height Index.**'

Part I, p. 165, line XIX ; for 'first lumbar vertebra' read 'fifth lumbar vertebra.'

Part I, p. 174, table VIII, total longitudinal circumference ; for '567' read '506.'

Part I, p. 175, lines XXIII and XXIV ; for 'is the same as the tibio-femoral, viz., 74.3' read 'approaches the tibio-femoral, being 73.8.'

Part I, plate XVIII ; for 'Fig. 1' read 'Fig. 4' ; for 'Fig. 2' read 'Fig. 5' ; for 'Fig. 3' read 'Fig. 6' ; and conversely throughout.

TABLE VIII

MALAYO-SIAMESE (CRANIAL MEASUREMENTS AND INDICES)

Collection Number	21	22	23	24	25	26	27	28	29	30	31
Age	Adult	Adult	Adult	Adult	Adult	Adult	Adult	Adult	15 years	18 mths.	10 years
Sex	♂	♂	♂	♀	♀	♀	♀	♂	!	!	!
Cubic Capacity	1330	1390	1475	1325	1360	1310	1215	..	1300	..	1190
Glabello-occipital Length	163	176	172	174	170	170	166	..	170	..	156
Basal-bregmatic Height	139	133	135	135	135	132	130	..	130	..	120
Vertical Index	85.2	75.5	78.4	77.5	79.4	77.6	78.3	..	76.4	..	76.9
Minimum Frontal Diameter	107	94	96	88	89	90	91	..	94	..	88
Stephanic Diameter	116	110	108	110	116	104	108	..	116	..	106
Asterionic Diameter	105	117	108	105	100	102	105	..	109	..	102
Greatest Parieto-squamous Breadth	140	139	150	137	134	136	133	..	136	..	140
Cephalic Index	85.9	79.0	87.2	78.7	78.8	80.0	78.9	..	80.0	..	89.7
Horizontal Circumference	490	494	513	492	479	490	477	..	480	..	462
Frontal Longitudinal Arc	121	116	120	123	128	128	120	..	121	..	104
Parietal " "	130	115	118	126	122	118	122	..	113	..	123
Occipital " "	100	118	111	107	111	111	110	..	117	..	115
Total " "	351	349	349	356	350	357	352	..	351	..	332
Vertical Transverse Arc	308	294	315	302	300	298	294	..	298	..	276
Basal Transverse Diameter	116	124	138	118	118	119	123	..	112	..	105
Vertical Transverse Circumference	424	418	453	420	418	417	417	..	410	..	381
Length of Foramen Magnum	32	37	40	37	37	35	31	..	35	..	32
Basal-nasal Length	98	107	106	100	96	100	96	..	92	..	82
Basal-alveolar Length	100	104	99	94	96	95	96	..	93	..	81
Gnathic Index	100.0	97.2	95.2	94.6	100.0	98.0	93.7	..	101.1	..	98.8
Total Longitudinal Circumference	481	493	493	491	485	492	479	..	478	..	446
Interzygomatic Breadth	130	133	140	122	123	121	116	..	112	..	106
Nasio-mental Length	109	114	120	108	116	..	..	..	97	..	86
Nasio-mental Complete Facial Index	83.8	85.7	85.7	88.5	94.3	..	..	..	86.6	..	82.1
Nasio-alveolar Length	83	71	77	..	69	56	58	..	53	..	51
Maxillo-facial Index	50.7	53.4	55.0	54.2	54.8	46.3	50.0	..	49.1	..	48.1
Nasal Height	48	53	52	47	47.5	47	45	..	48.5	..	37
Nasal Width	22	24.5	28	25	27	25	23	..	22	..	18
Nasal Index	48.8	46.9	55.7	52.8	56.8	44.7	53.5	..	52.1	..	48.7
Orbital Width	32	40	41	40	38	36	35	..	34	..	35
Orbital Height	30	34	36	32	33	34	30	..	29	..	28
Orbital Index	82.1	86.0	87.8	80.0	84.6	88.2	85.7	..	86.3	..	80.4
Palato-maxillary Length	57	57	56	52	53	47	50	..	43	32	45
Palato-maxillary Breadth	60	64	71	62	63	58	65	..	62	42	55
Palato-maxillary Index	105.3	108.9	126.8	115.4	119.4	100.0	120.0	..	144.2	132.2	120.0
Lower Jaw											
Symphysial Height	28	30	33	30	28	24	..	..	26	17	26
Coronoid " "	60	64	70	57	58	50	56	56	54	29	46
Condylod " "	59	60	70	59	58	59	74	62	55	32.5	48
Genio-symphysial Length	80	93	88	84	80	82	77	80	74	46	70
Inter-genial Width	105	109	111	105	92	87	88	92	88	62	79
Breadth of Ascending Ramus	37	42	45	42	38	35	35	37	38	22	30

TABLE IX

MALAYO-SIAMESE (MEASUREMENTS AND INDICES OF LIMB BONES)

Collection Number	21		23		24		25		26		27		28	
Sex	♂		♂		♀		♀		♀		♀		♂	
FEMUR—	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.
Maximum Length	401	400	448	455	390	394	421	419	..	376	365	362	393	393
Oblique Length	396	397	446	453	387	391	416	416	..	375	359	357	387	387
TIBIA—														
Maximum Length (without spine) .. .. .	..	321	381	380	314	319	339	339	..	326	305	305	317	321
Condylar-astragalar Length .. .. .	..	315	370	370	304	307	331	331	..	315	295	296	305	307
FIBULA .. .. .	..	325	373	372	310	316	312	313	322	323	..	..	315	312
HUMERUS	285	290	328	328	276	276	..	..	267	270	268	268	280	285
RADIUS—														
To Tip of Styloid	230	230	252	251	222	220	..	..	219	221	204	201+x	221	220
To Articular Surface	221	221	247	245	218	217	..	..	215	216	200	200	217	214
ULNA—														
To Tip of Styloid	242	242	..	270	235	237	..	..	..	237	225	225	233	251
To Articular Surface	240	241	..	266	233	235	..	..	235	235	222	221	230	227
CLAVICLE .. .. .	..	..	..	170	121	125	..	..	..	..	120	120	..	..
SCAPULA—														
Height	135	..	165	163	132	133	..	..	124	128	118	119+x	131	133
Breadth	92	..	108	110	93	90	..	..	88	87	86	85	95	95
Infra-spinous Height	105	..	124	126	102	104	..	..	98	101	88	89	107	104
Supra-spinous Height	45	..	52	54	44	43	..	..	44	44	43	45	41	40
TIBIA (extra measurements)—														
'A.P.' Diameter .. .. .	..	27.5	32	30.5	26	25	25	23	..	21	dis- cased	dis- cased	26	25
Breadth of Shaft .. .. .	..	20.0	19	19	17	16	16	16	..	16	dis- cased	dis- cased	18	16
INDICES														
Tibio-femoral Index .. .. .	..	78.7	82.9	81.6	78.5	77.9	79.5	80.0	..	84.0	83.2	82.9	78.8	79.3
Humero-femoral Index .. .. .	..	71.1	72.5	73.2	72.1	70.7	70.0	..	..	71.1	73.4	74.0	72.5	70.7
Radio-humeral Index .. .. .	..	80.7	79.6	76.7	76.5	80.4	79.7	..	..	82.0	81.8	76.1	78.9	78.0
Intermembral Index .. .. .	..	..	72.1	69.9	69.3	70.7	69.6	..	..	..	69.9	70.4	70.3	70.3
Scapular Index .. .. .	..	68.1	..	68.4	67.4	70.4	67.6	..	..	71.0	68.0	70.2	70.2	70.2
Platycnemic Index .. .. .	..	..	72.7	59.4	62.8	65.3	64.0	64.0	69.5	..	76.2	..	69.2	62.0

35905
The Asiatic Society Library

Author

Title *2 Fasciculi Malayenses.*

Call No. *Q.508.5 A.793.f.R*

Date of Issue

Issued to

Date of Return

Library of the
ASIATIC SOCIETY
1 Park Street, Calcutta
Call No. *Q.508.5*
ion No. *35905*

